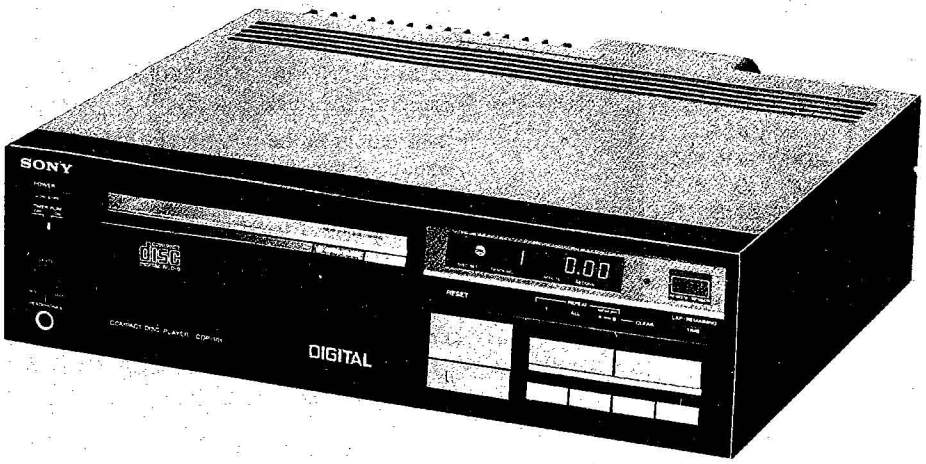
CDP-101
(RM-101)

AEP Model
UK Model
US Model
Canadian Model



COMPACT DISC PLAYER

SPECIFICATIONS

System	Compact disc digital audio system
Disc	Compact disc
Laser	Semiconductor laser (λ = 780 nm)
Spindle speed	200 r.p.m. to 500 r.p.m. (CLV)
Scan velocity	1.2 - 1.4 m/sec.
Error correction	Sony Super Strategy Cross Interleave Read Solomon Code
Number of channels	2
D-A conversion	16-bit linear
Frequency response	5 - 20,000 Hz ±0.5 dB
Harmonic distortion	Less than 0.004 % (1 kHz)
Dynamic range	More than 90 dB
Signal to noise ratio	More than 90 dB
Channel separation	More than 90 dB
Wow and flutter	Below measurable limit

Outputs	Line outputs Output level 2 V rms (at MSB) Load impedance over 10 kilohms Headphones 28 mW at 32 ohms

Disc

Track pitch	1.6 μm
Sampling frequency	44.1 kHz
Quantization	16 bit linear quantizing/channel
Modulation system	EFM
Transfer rate	2.03 bit/sec. (before modulation)

General

Power requirements	AEP model: 220 V ac 50/60 Hz UK model: 240 V ac 50/60 Hz US, Canadian model: 120 V ac 60 Hz
Power consumption	30 W
Dimensions	Approx. 355 × 105 × 325 mm (w/h/d) (14 × 4 1/4 × 12 7/8 in.) including projecting parts and controls
Weight	Approx. 7.6 kg (16 lbs 9 oz), net

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT A LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MICROFILM

CDP101

SONY®
SERVICE MANUAL

FEATURES

Excellent Sound Quality and High Performance

The performance and sound quality surpass those of a conventional analog-type disc player.

o Frequency response	5 Hz-20 kHz within ±0.5 dB
o Dynamic range	more than 90 dB
o Harmonic distortion	less than 0.004 % (1 kHz)
o Channel separation	more than 90 dB
o Wow & flutter	below measurable range

Full Auto Front Loading Linear Skating Disc Loading Mechanism

The disc is simply placed on the linear skating disc table, which goes in and out horizontally, in order to set the disc in the player. Then by pressing the PLAY button, the disc table closes, the disc is supported by the disc chucking mechanism and play begins.

Full-logic "Feather Touch" Operation

At the lightest touch, the "feather-touch" function buttons enable you to switch directly from one mode to another.

AMS and Repeat Function

The AUTOMATIC MUSIC SENSOR (AMS) function for locating the beginning of a selection on the disc, and the three types of repeat functions: one for the entire disc, one for a portion of the disc, and one for a specific selection allow you to program the operation as you desire.

Digital Readout Display

The track number and the playing time elapsed of the selection playing is shown on the display window. With one touch of the LAP/REMAINING TIME button, this time display will change to indicate with a minus sign how much playing time is left on the disc.

Remote Control Operation

Using the supplied Remote Commander, all the functions of the player as well as a 10-key music select function can be remotely controlled.

Non-contact Signal Readout System

Because a laser beam is employed for signal pick-up, there is no physical contact with the disc, which means no wear.
In addition, because the pit pattern is recorded below the surface of the disc, it is not necessary to be constantly on guard against dust, making the disc easy to handle.

Other Features

- Timer play possible through use of an external timer.
- Auto pause function provided for sing-along enjoyment. (ON/OFF possible)
- Equipped with headphone output pin and level control.
- Accessory connector provided for future system grade-up.
- Equipped with warning mechanism for automatic detection of disc, and proper or improper disc setting.
- Beep sound ON/OFF to confirm remote control operation.
- Automatic detection of emphasis to further improve treble S/N ratio.

MODEL IDENTIFICATION
— Specifcations Labels —

AEP model

SONY® MODEL NO. CDP-101
COMPACT DISC PLAYER
AC: 220 V — 50/60 Hz 30 W
SERIAL NO.
MADE IN JAPAN

UK model

SONY® MODEL NO. CDP-101
COMPACT DISC PLAYER
AC: 240 V — 50/60 Hz 30 W
SERIAL NO.
MADE IN JAPAN

US, Canadian model

SONY® MODEL NO. CDP-101
COMPACT DISC PLAYER
AC: 120 V 60 Hz 30 W
SERIAL NO.
MADE IN JAPAN

TABLE OF CONTENTS

Specifications 1
Protection of Eyes from Laser Beam During Servicing 2
Laser Warning Labels 2
Safety Check-Out (US model) 3
Features 4
CAUTION FOR ELECTROSTATIC BREAKDOWN 6
Notes on Handling the Optical System Block (KSS-100A) 6
Handling Precautions for MOS ICs 7
SERVICING NOTE 9
Notes on Laser Diode Emission Check 9
Laser Diode Check 9
Focus Search Operation Check 10
Notes on Removing Bottom Plate 10
Circuit Board/Switch/Motor Location 11

SECTION 1 OUTLINE

1-1. Precautions 12
1-2. Notes on Compact Disc 12
1-3. Connections 13
1-4. Location and Function of Controls 14
1-5. Operations 16
Disc Playing 16
Search Operation 17
Repeat Play 18
Using the Time Counter 19
Timer-Activated Play 19
Synchronized Play of the Player and a Cassette Deck – Only AEP and UK model –
AEP model: up to Serial No. 501,000
UK model: up to Serial No. 600,300 20
1-6. Block Diagram 21

SECTION 2 DISASSEMBLY

2-1. Disassembly 23

SECTION 3 ADJUSTMENTS

3-1. Mechanical Adjustments 34
Optical System Positions Adjustment 34
Optical Block Motor Thrust Adjustment 35
Disc Pulley Height Adjustment 35
Guide Plate Adjustment 36
Disc Table Stopper Adjustment 37
3-2. Electrical Adjustments 38
Adjustment Mode 38
RF Offset Adjustment 39
Tracking Offset Adjustment 39
Focus Bias Adjustment 40
Tracking Balance Adjustment 41
RF PLL Adjustment 42
IC201 Phase Lock Adjustment 43
AF Offset Adjustment 43
Focus/Tracking Gain Adjustment 44

SECTION 4 DIAGRAMS

4-1. Mounting Diagram – Servo Amp Section – 46
4-2. Schematic Diagram – Servo Amp Section – 51
4-3. Mounting Diagram – Audio Amp Section – 56
4-4. Schematic Diagram – Audio Amp Section – 61

SECTION 5 EXPLODED VIEWS AND PARTS LIST

5-1. Exploded Views 69
5-2. Parts List 76

RM-101

Specifications 91
1. Operations 92
2. Disassembly 93
3. Circuit Description 94
4. Mounting Diagram 99
5. Schematic Diagram 99
6. Exploded View and Parts List 101

– CAUTION FOR ELECTROSTATIC BREAKDOWN –

NOTES ON HANDLING THE OPTICAL SYSTEM BLOCK (KSS-100A)

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

The printed matter below is included in the repair parts. During repair, use the procedure in the printed matter.

The following method is an example for reference purposes:

1. Place a conductive sheet on the workbench. (The black sheet used as repair parts wrapping.)
2. Place the set on the conductive sheet so that the chassis touches the sheet. (This makes it the same potential as the conductive sheet.)
3. Place your hands on the conductive sheet. (This makes them the same potential as the sheet.)
4. Remove the optical system block from the bag (conductive).
5. Perform work on top of the conductive sheet. Be careful that clothing does not touch the optical pick-up block.

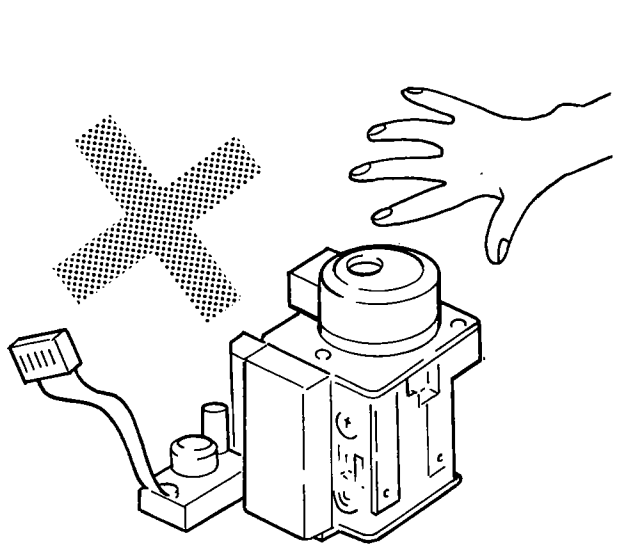
Printed Matter Included in the Repair Parts

When opening or repairing a KSS-100A, the procedure for grounding as follows is required to prevent damage caused by static electricity.

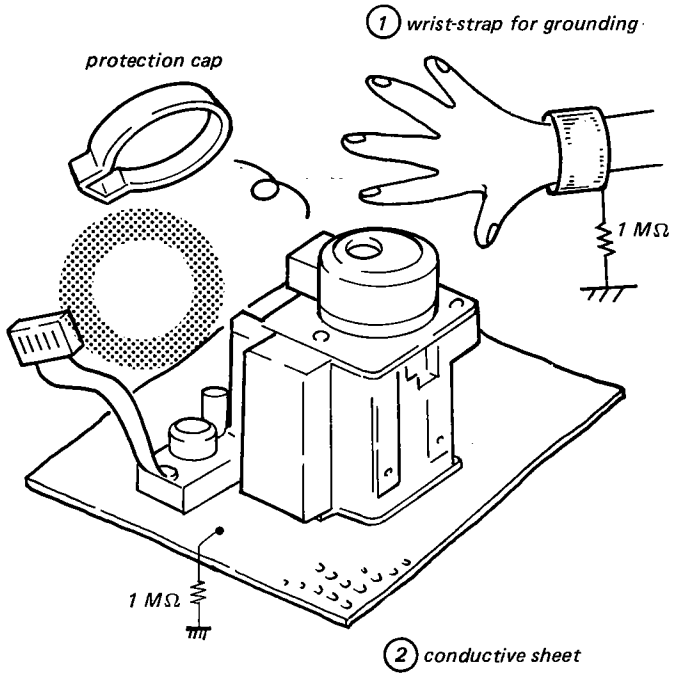
1 Grounding for the human body
Be sure to put on a wrist-strap for grounding (with impedance lower than 10^8 Ω) whose other end is grounded. The strap works to drain away the static electricity build-up on the human body.

2 Grounding for the work table
Be sure to lay on the table a conductive sheet (with impedance lower than 10^9 Ω) such as a sheet of copper, which is grounded.

3 As static electricity build-up on clothes is not drainded away, be careful not to let your clothes touch the KSS-100A.



KSS-100A



Handling Precautions for MOS ICs

Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high enough to cause a breakdown of the insulating layer.

The following precautions should be taken while handling these ICs.

(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential.
   (The ICs should be stored in that manner until mounted on the circuit board.)

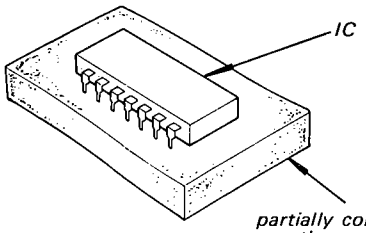


Fig. A

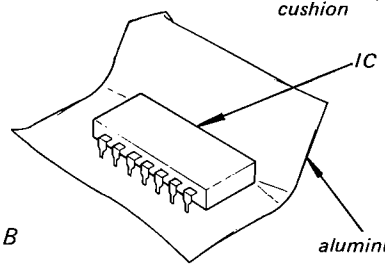


Fig. B

2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.

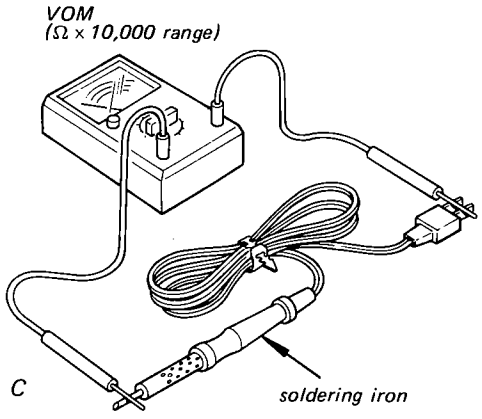


Fig. C

3. Equalize any potential difference between the clothes, the tools in use, the work bench, the set being worked on, and the packaged IC by touching them all in succession with the hands or a conductive wire or tool.
4. The following are effective methods for handling ICs that remove the potential difference across the oxide layer.
   - Use a paper clip modified by soldering in a wire braid insert.

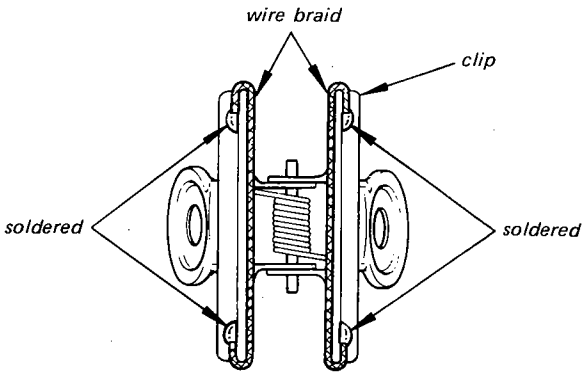


Fig. D *Make sure that there is no solder on the inside.*

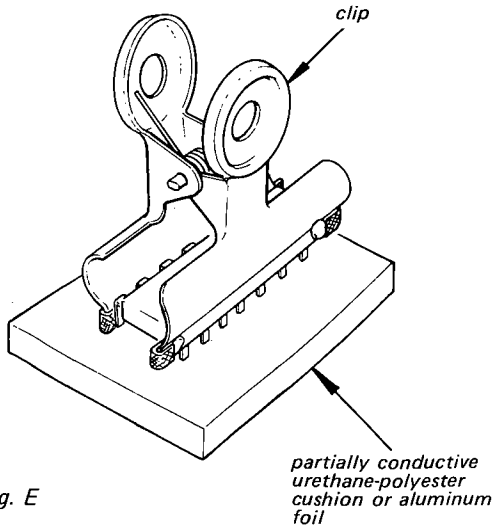


Fig. E

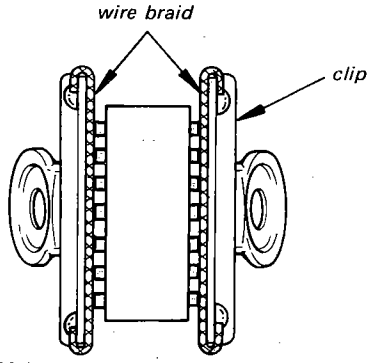


Fig. F *Make sure that all the pins are in contact with the wire braid (all the pins will then be at the same potential.).*

- Take a short length of fine bare wire and wind it around the IC so that it shorts all the pins of the IC, while it is still in the urethane-polyester cushion or aluminum foil. This ensures that all the pins are at the same potential.

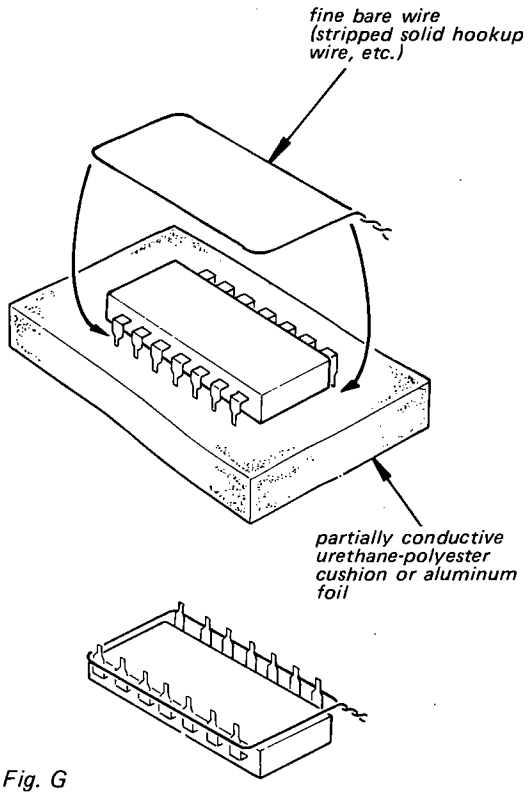


Fig. G

- When it is necessary to handle the IC with the fingers, do not touch any pin, and hold the IC at the ends of its plastic-package case as shown in Fig. H.

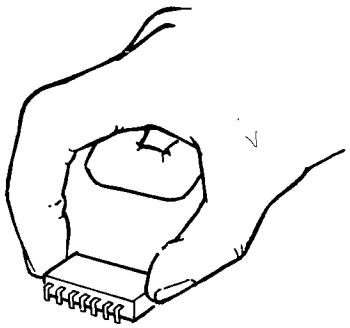


Fig. H

5. Method of Mounting
Insert the IC while holding it with the modified clip, and solder all the pins with the clip still shorting the pins. (Similarly, solder all the pins while the bare shorting wire is still wound around them.). Remove the clip or the bare shorting wire only after all the pins have been soldered.

Precaution while Checking C-MOS ICs

The C-MOS ICs (Complementary MOS) are MOS ICs that have their output sections made up of N-channel and P-channel push-pull stages to increase their speed of operation. If the output terminal of these ICs comes into contact with B+ or B– voltage, then the FET which is ON at that time will either become shorted or open.

This is valid for all the output sections that are connected together by the interconnections. Even the circuits that are physically separated (and not on the same board) can be destroyed simultaneously.

Example:

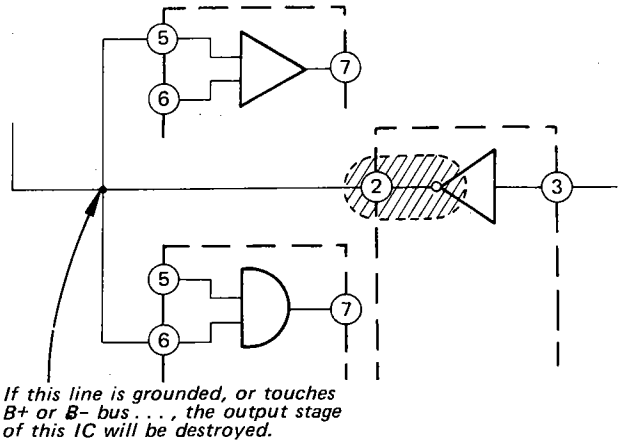


Fig. I

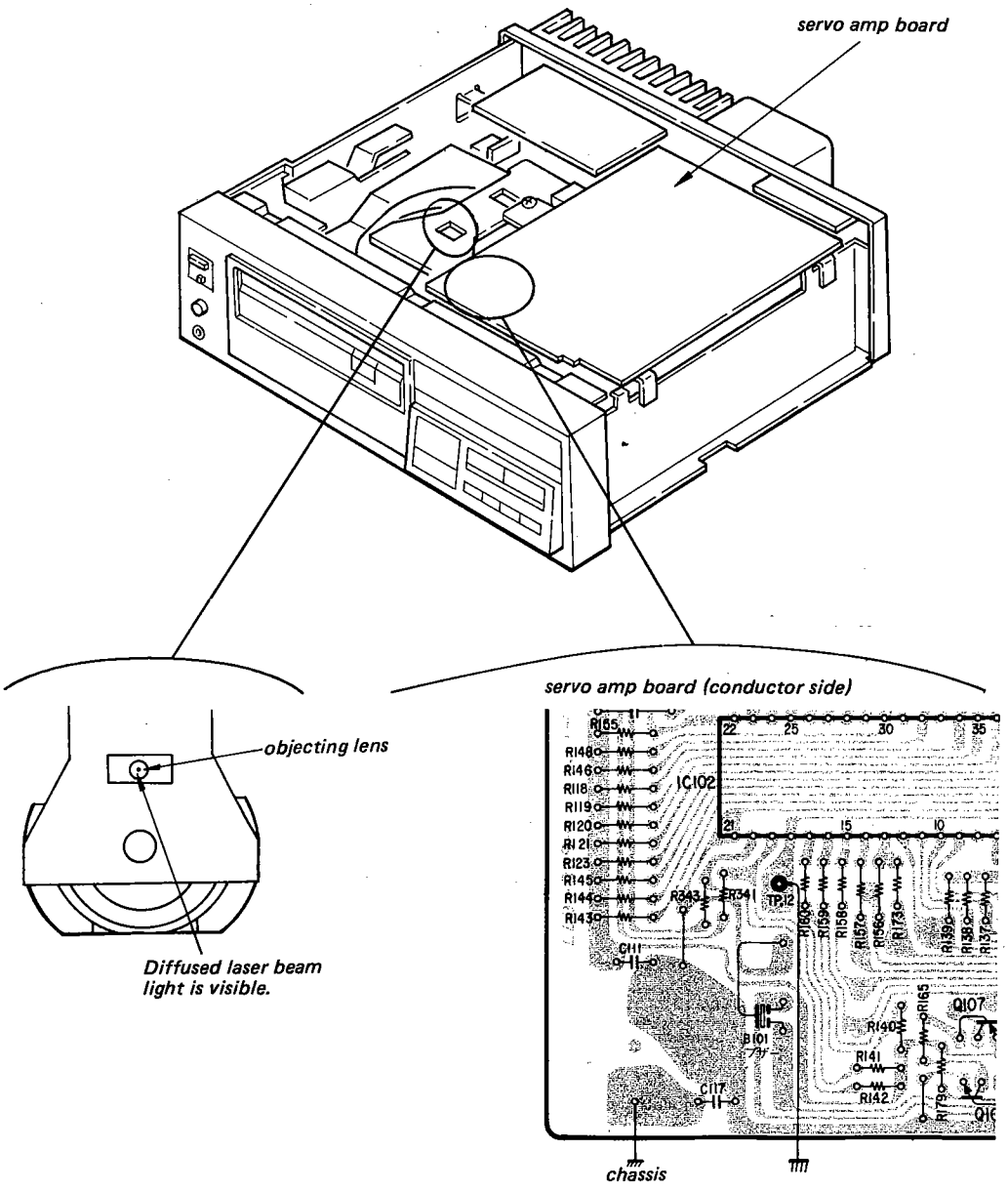
– SERVICING NOTE –

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

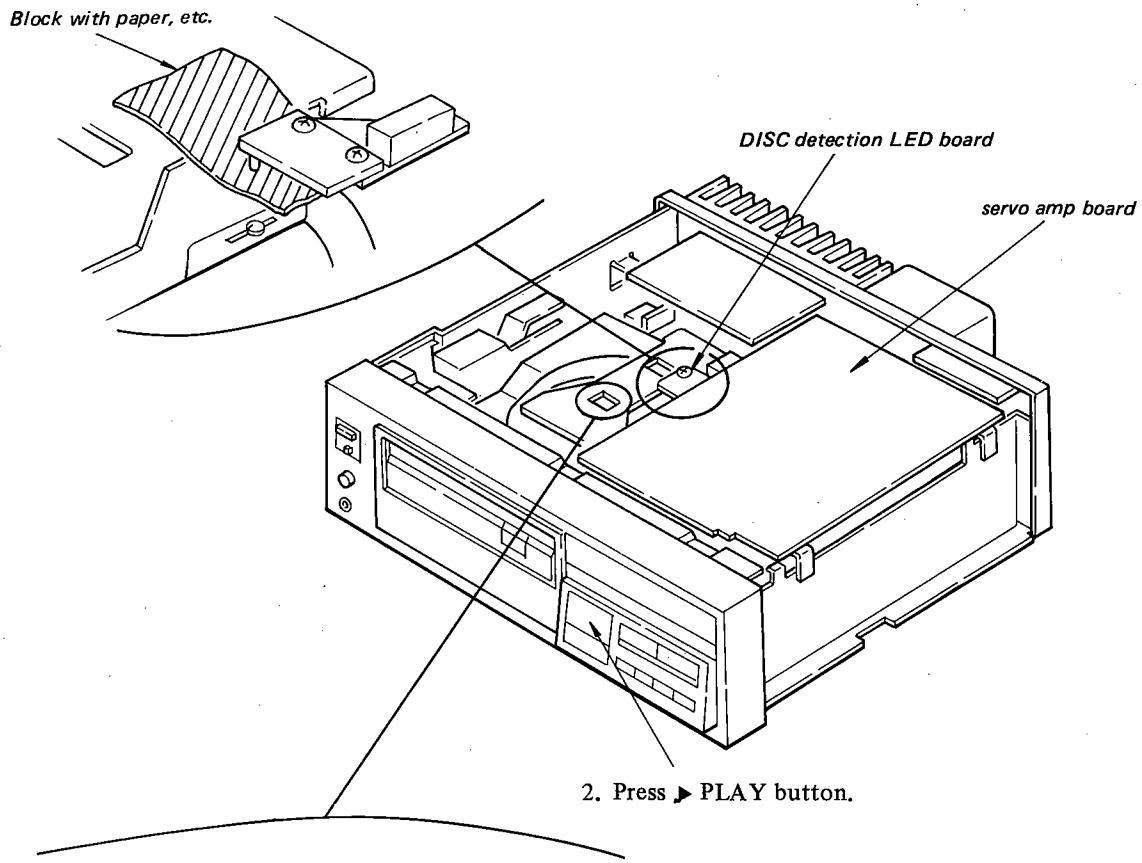
LASER DIODE CHECK

1. Ground servo amp board TP12 (IC102 pin (18) ($\overline{\text{LD ON}}$)).
2. Observe the objective lens and confirm that the laser diode is emitting light.

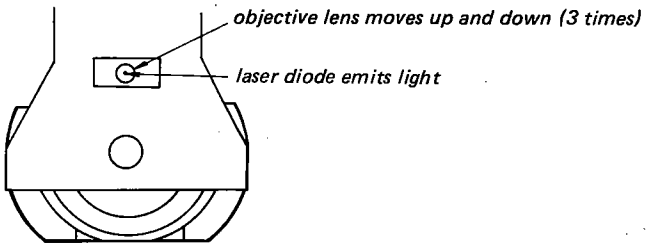


FOCUS SEARCH OPERATION CHECK

1. Block the disc detection phototransistor so that light does not hit it.

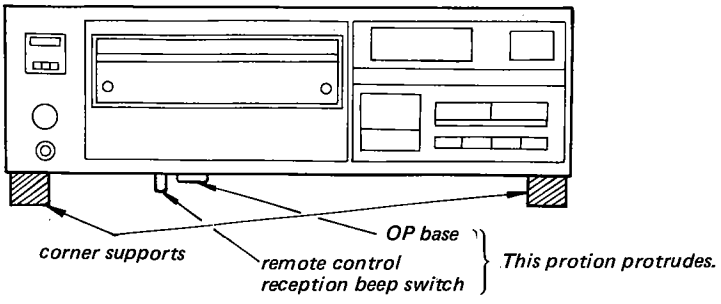


3. Observe the objective lens and confirm the operations below.

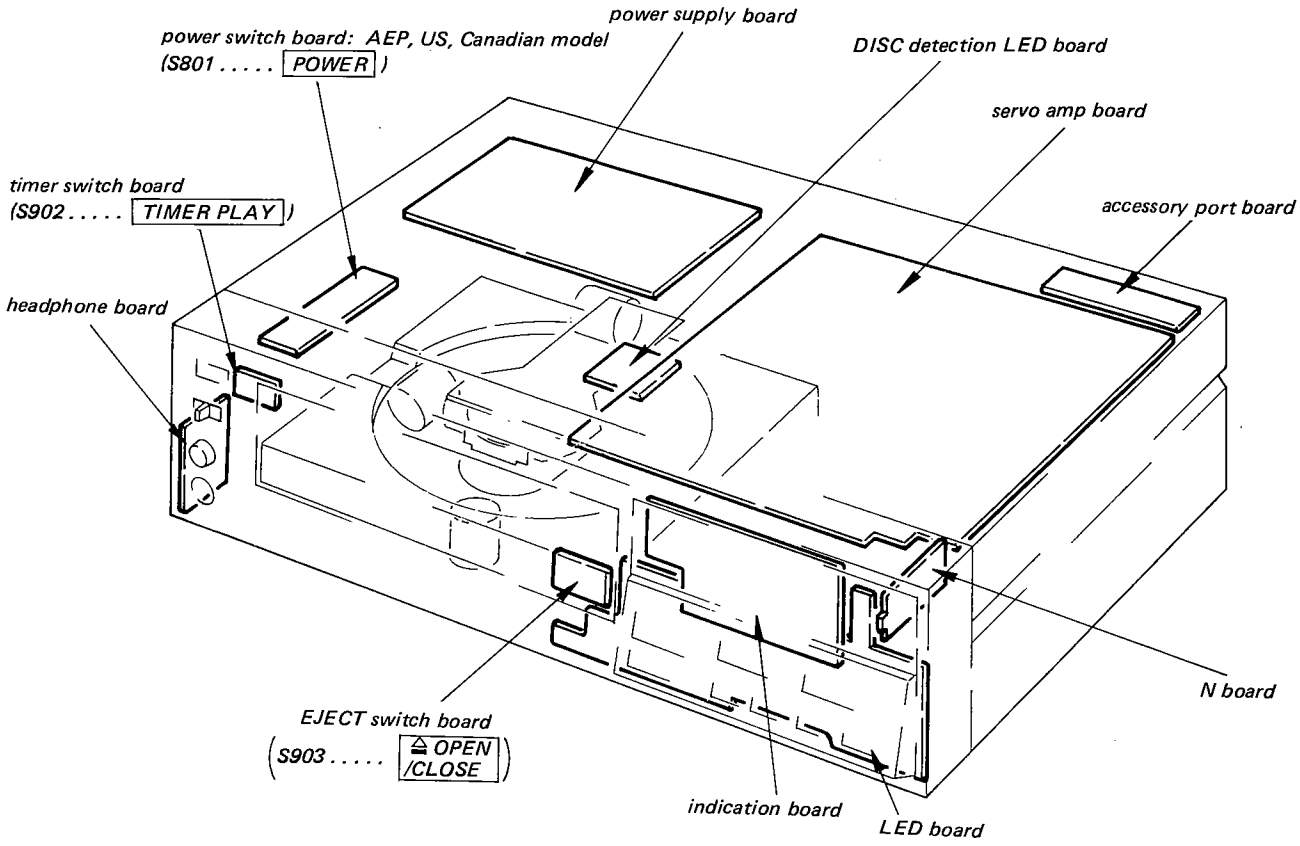


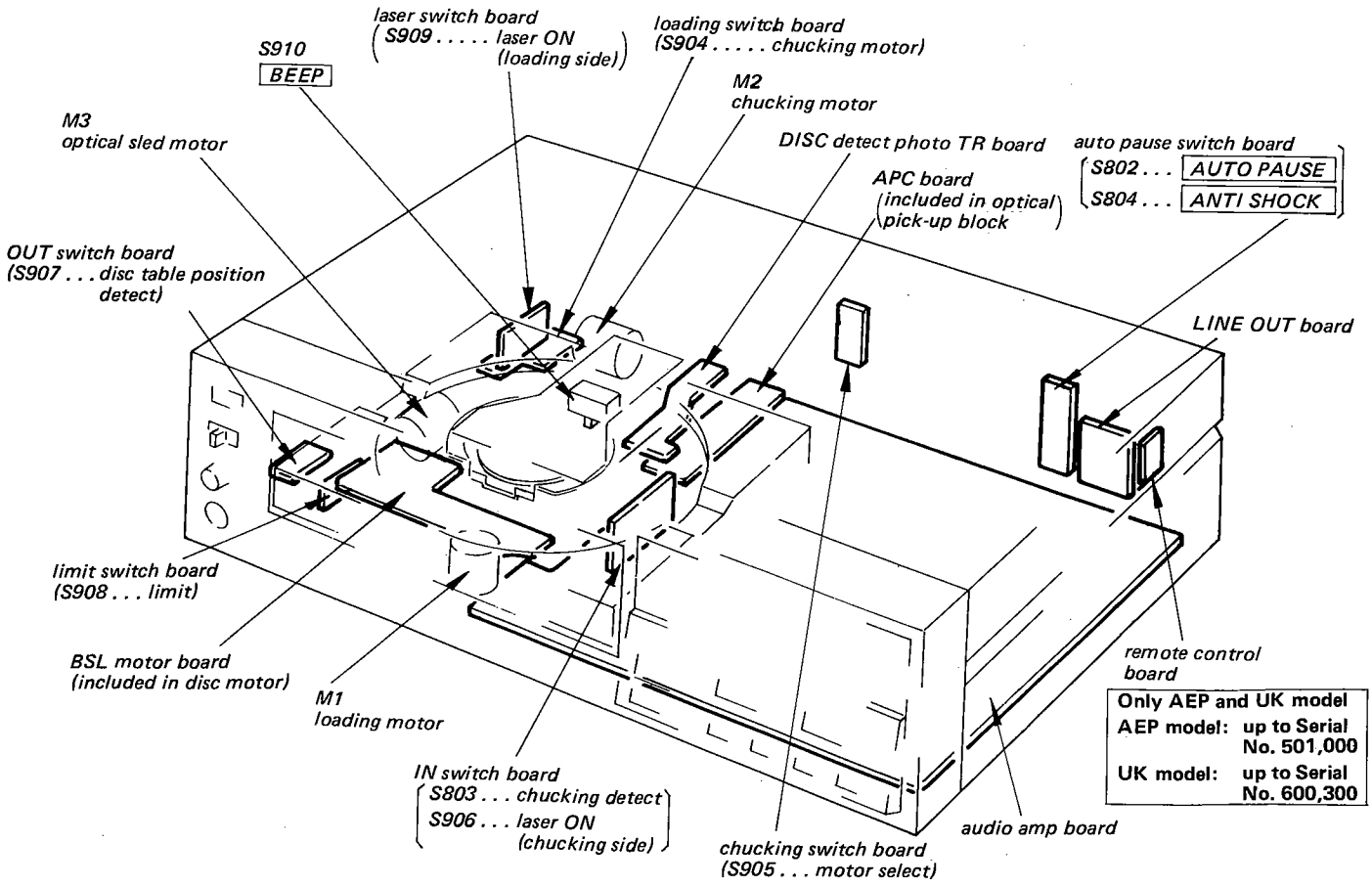
NOTES ON REMOVING BOTTOM PLATE

When placing the set level with the bottom plate removed, place on four corner supports.



CIRCUIT BOARD/SWITCH/MOTOR LOCATION


power supply board
power switch board: AEP, US, Canadian model
(S801 . . . . . POWER)
DISC detection LED board
servo amp board
timer switch board
(S902 . . . . . TIMER PLAY)
accessory port board
headphone board
N board
EJECT switch board
(S903 . . . . . ⏏ OPEN /CLOSE)
indication board
LED board


laser switch board
(S909 . . . . . laser ON (loading side))
loading switch board
(S904 . . . . . chucking motor)
S910
BEEP
M2
chucking motor
M3
optical sled motor
DISC detect photo TR board
auto pause switch board
S802 . . . AUTO PAUSE
S804 . . . ANTI SHOCK
APC board
(included in optical pick-up block)
OUT switch board
(S907 . . . disc table position detect)
LINE OUT board
limit switch board
(S908 . . . limit)
BSL motor board
(included in disc motor)
M1
loading motor
remote control board
IN switch board
S803 . . . chucking detect
S906 . . . laser ON (chucking side)
chucking switch board
(S905 . . . motor select)
audio amp board
Only AEP and UK model
AEP model: up to Serial No. 501,000
UK model: up to Serial No. 600,300

SECTION 1
OUTLINE

1-1. PRECAUTIONS

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.
- The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

On operation

When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On repacking

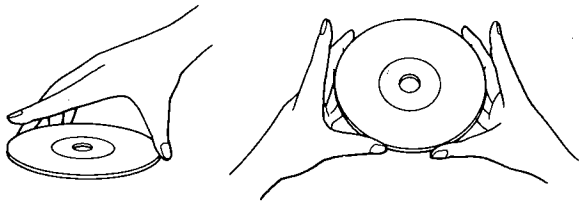
Do not throw away the carton and the packing material. They make an ideal container to transport the unit in. When shipping the unit for repair work or to another location, repack it as illustrated on the carton box.

NOTES ON MOISTURE CONDENSATION

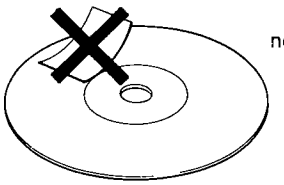
If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the unit.
Should this occur, the player will not operate. In this case, remove the disc and leave the player turned on for about an hour to evaporate the moisture.

1-2. NOTES ON COMPACT DISCS

Handle the disc by its edge, and to keep the disc clean, do not touch the rainbow colored surface.

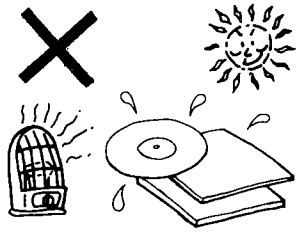


Do not stick paper or tape on the labeled surface.



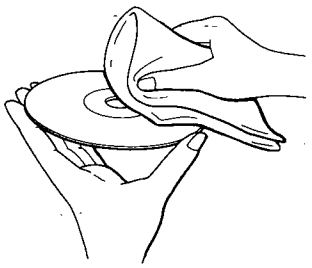
not this way

Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight where there can be a considerable rise in the temperature.



not this way

Before playing, clean the disc with the supplied cleaning cloth.



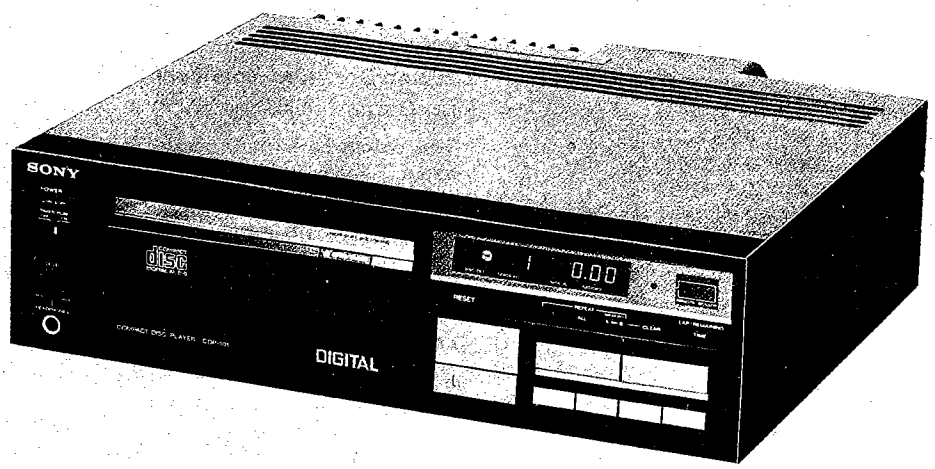
Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray intended for analog discs.

After playing, store the disc in its case.

7310

CDP-101
(RM-101)

AEP Model
UK Model
US Model
Canadian Model



COMPACT DISC PLAYER

SPECIFICATIONS

System	Compact disc digital audio system
Disc	Compact disc
Laser	Semiconductor laser (λ = 780 nm)
Spindle speed	200 r.p.m. to 500 r.p.m. (CLV)
Scan velocity	1.2 – 1.4 m/sec.
Error correction	Sony Super Strategy Cross Interleave Read Solomon Code
Number of channels	2
D-A conversion	16-bit linear
Frequency response	5 – 20,000 Hz ±0.5 dB
Harmonic distortion	Less than 0.004 % (1 kHz)
Dynamic range	More than 90 dB
Signal to noise ratio	More than 90 dB
Channel separation	More than 90 dB
Wow and flutter	Below measurable limit

Outputs	Line outputs Output level 2 V rms (at MSB) Load impedance over 10 kilohms Headphones 28 mW at 32 ohms

Disc

Track pitch	1.6 μm
Sampling frequency	44.1 kHz
Quantization	16 bit linear quantizing/channel
Modulation system	EFM
Transfer rate	2.03 bit/sec. (before modulation)

General

Power requirements	AEP model: 220 V ac 50/60 Hz UK model: 240 V ac 50/60 Hz US, Canadian model: 120 V ac 60 Hz
Power consumption	30 W
Dimensions	Approx. 355 × 105 × 325 mm (w/h/d) (14 × 4 1/4 × 12 7/8 in.) including projecting parts and controls
Weight	Approx. 7.6 kg (16 lbs 9 oz), net

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT A LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MICROFILM

CDP101

SONY®
SERVICE MANUAL

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING !!

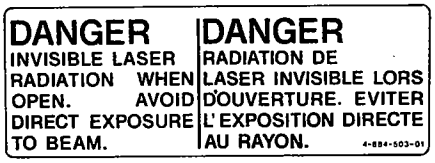
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

1. Laser Diode Properties
   - Material: GaAs
   - Wavelength: 780 nm
   - Emission Duration: continuous
   - Laser Output: max. 0.4 mW*
     * This output is the value measured at a distance of about 1.6 mm from the objective lens surface on the Optical Pick-up Block.
   - Classification: Class IIIb equivalent
2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

LASER WARNING LABELS

The labels shown below are affixed.

1. Protective Housing Label
   1) DHHS Protective Housing Label ..... (US model only)


DANGER
INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
DANGER
RADIATION DE LASER INVISIBLE LORS D'OUVERTURE. EVITER L'EXPOSITION DIRECTE AU RAYON.
4-884-503-01

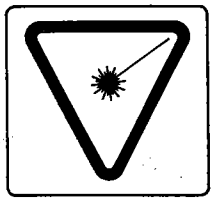
   - See figure on next page for location of label.

   2) DNHW Protective Housing Label and Laser Radiation Sign Label ..... (Canadian model only)

DNHW Protective Housing Label

CAUTION
HAZARDOUS LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED.
ATTENTION
RAYONNEMENT LASER DANGEREUX SI OUVERT AVEC L'ENCLENCHEMENT DE SECURITE ANNULE.

Laser Radiation Sign Label

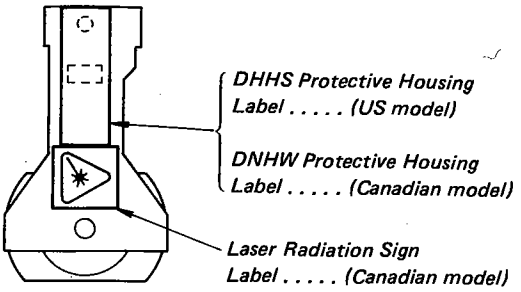


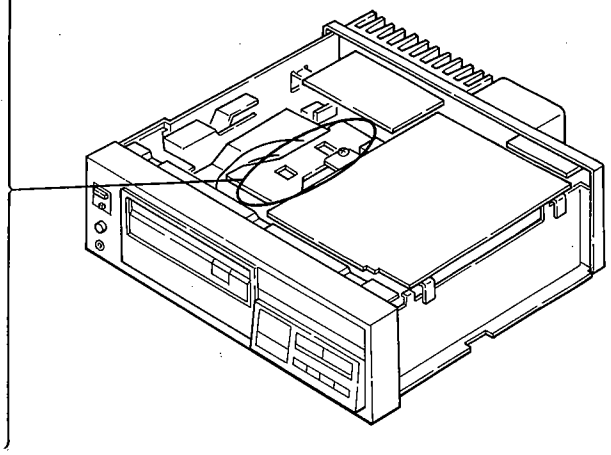
- See figure on next page for location of label.

2. Aperture Label ..... (AEP, UK model only)

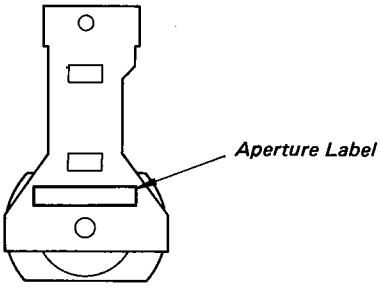
- See figure on next page for location of label.

- **US, Canadian model**


DHHS Protective Housing Label . . . . . (US model)
DNHW Protective Housing Label . . . . . (Canadian model)
Laser Radiation Sign Label . . . . . (Canadian model)



- **AEP, UK model**



SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

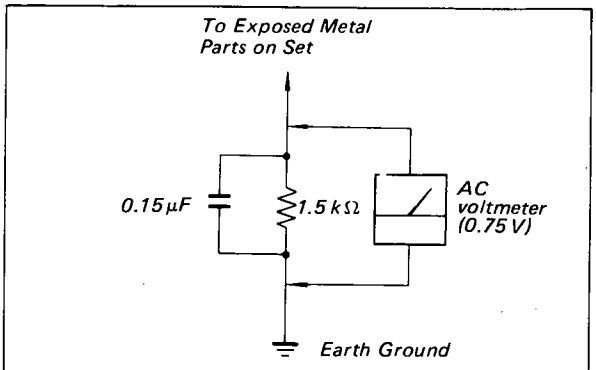


Fig. A. Using an AC voltmeter to check AC leakage.

FEATURES

Excellent Sound Quality and High Performance

The performance and sound quality surpass those of a conventional analog-type disc player.

○ Frequency response	5 Hz-20 kHz within ±0.5 dB
○ Dynamic range	more than 90 dB
○ Harmonic distortion	less than 0.004 % (1 kHz)
○ Channel separation	more than 90 dB
○ Wow & flutter	below measurable range

Full Auto Front Loading Linear Skating Disc Loading Mechanism

The disc is simply placed on the linear skating disc table, which goes in and out horizontally, in order to set the disc in the player. Then by pressing the PLAY button, the disc table closes, the disc is supported by the disc chucking mechanism and play begins.

Full-logic "Feather Touch" Operation

At the lightest touch, the "feather-touch" function buttons enable you to switch directly from one mode to another.

AMS and Repeat Function

The AUTOMATIC MUSIC SENSOR (AMS) function for locating the beginning of a selection on the disc, and the three types of repeat functions: one for the entire disc, one for a portion of the disc, and one for a specific selection allow you to program the operation as you desire.

Digital Readout Display

The track number and the playing time elapsed of the selection playing is shown on the display window. With one touch of the LAP/REMAINING TIME button, this time display will change to indicate with a minus sign how much playing time is left on the disc.

Remote Control Operation

Using the supplied Remote Commander, all the functions of the player as well as a 10-key music select function can be remotely controlled.

Non-contact Signal Readout System

Because a laser beam is employed for signal pick-up, there is no physical contact with the disc, which means no wear.
In addition, because the pit pattern is recorded below the surface of the disc, it is not necessary to be constantly on guard against dust, making the disc easy to handle.

Other Features

- Timer play possible through use of an external timer.
- Auto pause function provided for sing-along enjoyment. (ON/OFF possible)
- Equipped with headphone output pin and level control.
- Accessory connector provided for future system grade-up.
- Equipped with warning mechanism for automatic detection of disc, and proper or improper disc setting.
- Beep sound ON/OFF to confirm remote control operation.
- Automatic detection of emphasis to further improve treble S/N ratio.

MODEL IDENTIFICATION
— Specifcations Labels —

AEP model

SONY® MODEL NO. CDP-101
COMPACT DISC PLAYER
AC: 220 V — 50/60 Hz 30 W
SERIAL NO.
MADE IN JAPAN

UK model

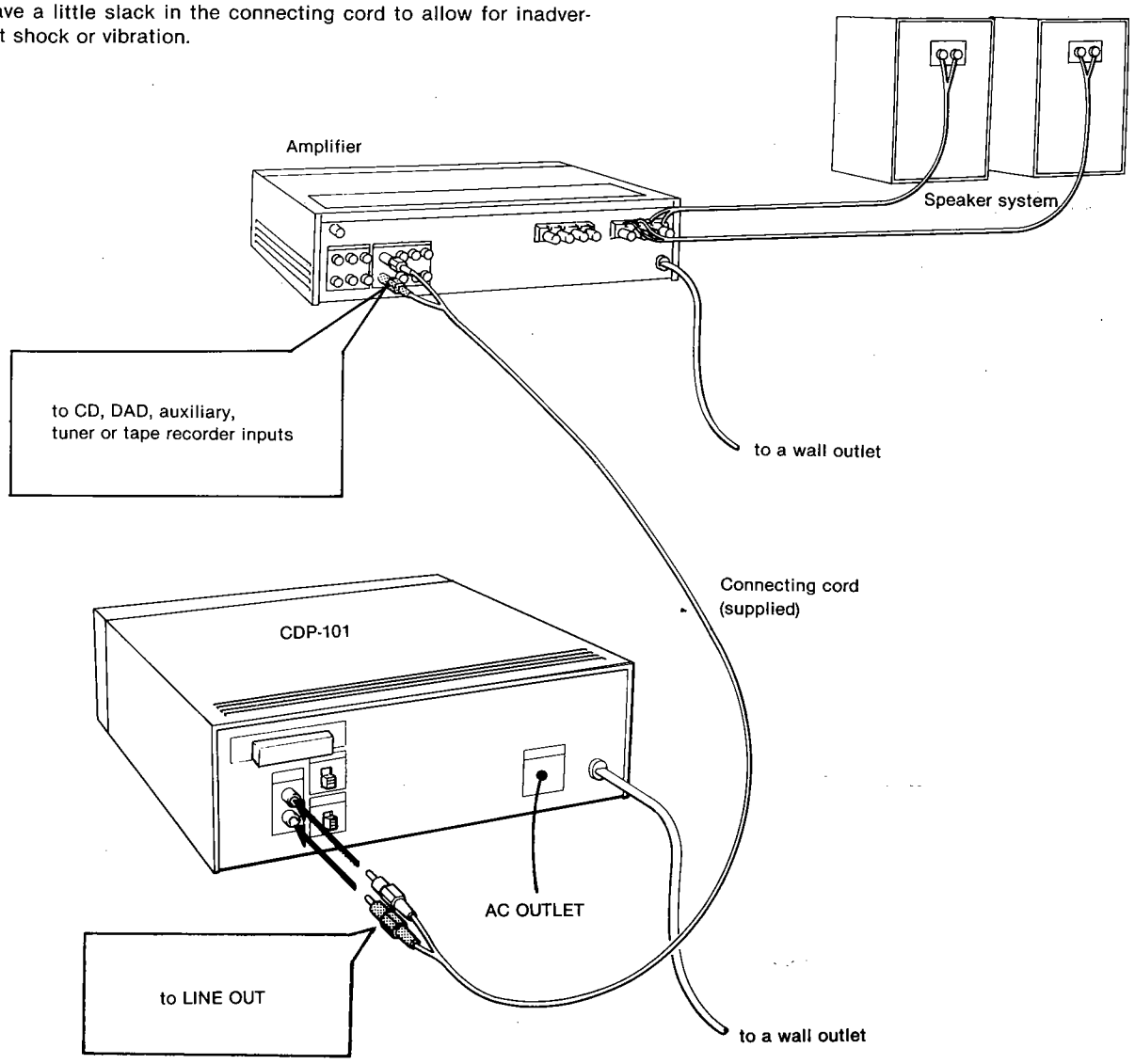
SONY® MODEL NO. CDP-101
COMPACT DISC PLAYER
AC: 240 V — 50/60 Hz 30 W
SERIAL NO.
MADE IN JAPAN

US, Canadian model

SONY® MODEL NO. CDP-101
COMPACT DISC PLAYER
AC: 120 V 60 Hz 30 W
SERIAL NO.
MADE IN JAPAN

1-3. CONNECTIONS

- Turn off the amplifier before making connections.
- Be sure to insert the cable connectors firmly into the jacks. Loose connections may cause hum and noise.
- Connect the red plug of the supplied connecting cord to the right-channel jack [R] of the amplifier and the white plug to the left-channel jack [L]. Otherwise, the right and left channels will be reversed.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.
- Be sure not to connect the CDP-101 to the PHONO input jacks of the amplifier.
- If the CD player causes interference to radio and television reception, turn off the player or move the player away from the receiver.

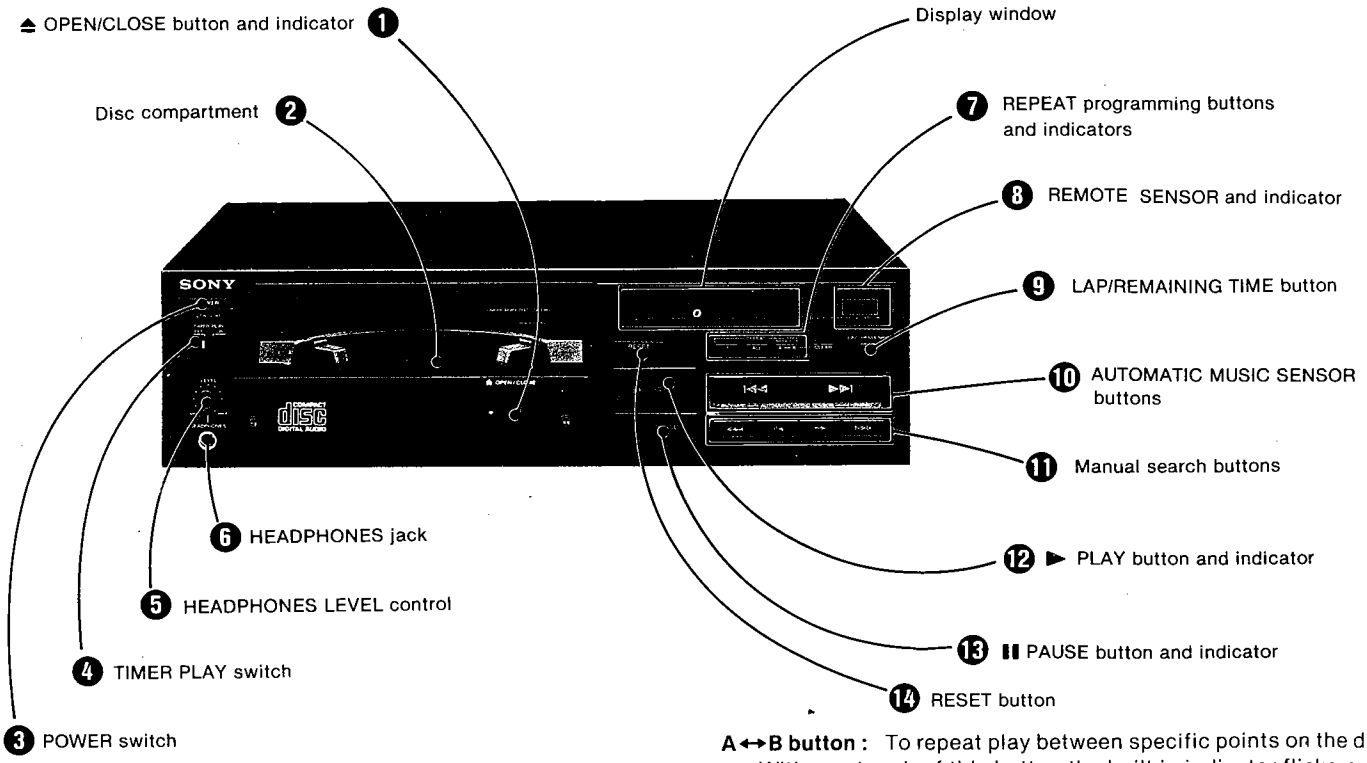


AC OUTLET
An audio component whose power consumption is under 100 watts can be connected to this outlet. This outlet is not controlled by the front panel POWER switch.
Do not connect an electrical home appliance, such as an electric iron, fan, TV or any other high-wattage equipment, to this ac outlet.

Power cord
A white mark is visible on one lead of the power cord. This will help you drive the CDP-101 and other components in the system "in phase" by aligning the ac power cord polarities with ac outlet polarities. In most cases, the marked plug of the CDP-101's power cord should be inserted into the negative potential of the ac outlet.

1-4. LOCATION AND FUCNTION OF CONTROLS

Before plugging in or attempting to operate this unit,
it is suggested that you familiarize yourself with all its switches and controls and the purpose of each.
Each number in the photo is keyed to the descriptive text.


⏏ OPEN/CLOSE button and indicator 1
Display window
Disc compartment 2
7 REPEAT programming buttons and indicators
8 REMOTE SENSOR and indicator
9 LAP/REMAINING TIME button
10 AUTOMATIC MUSIC SENSOR buttons
11 Manual search buttons
6 HEADPHONES jack
12 ▶ PLAY button and indicator
5 HEADPHONES LEVEL control
13 ❚❚ PAUSE button and indicator
4 TIMER PLAY switch
14 RESET button
3 POWER switch

❶ ⏏ OPEN/CLOSE button and indicator
With one touch of this button the disc compartment opens for disc loading. The indicator on the OPEN/CLOSE button will illuminate while the compartment is opening. With another touch the compartment closes.

❷ Disc compartment
Place a compact disc here.

❸ POWER switch
Depress to turn on the power. The "1" indicator will appear in the display window in a few seconds. To turn the power off, press the switch again.

❹ TIMER PLAY switch
You can set the player to play a disc at a predetermined time by connecting any commercially available timer. To play, set this switch to ON. See "Timer-activated play" on page 19.

❺ HEADPHONES LEVEL control
This control adjusts the volume at the headphones. At the minimum position, the sound is just audible.

❻ HEADPHONES jack (stereo phone jack)
Accepts any low or high impedance stereo headphones.

❼ REPEAT programming buttons
Press these buttons to program repeat play of the disc.
1 button: To repeat the selection now being played.
To release repeat play, press the button again.
ALL button: To repeat all the selections on the disc.
To release repeat play, press the button again.
A↔B button: To repeat play between specific points on the disc.
With one touch of this button the built-in indicator flickers and the point where the button has been pressed is memorized as the "A" (start) point of repeat play.
With another touch, the built-in indicator illuminates steadily and the point where the button has been pressed a second time is memorized as the "B" (end) point of repeat play.
When the **CLEAR** button is pressed, this repeat play will be cancelled.
Any repeat program is also cancelled when another REPEAT programming button is pressed.

❽ REMOTE SENSOR and indicator (for remote control)
The infrared beam transmitted by the supplied Remote Commander is received here. The indicator blinks to indicate that a function key of the Remote Commander has been pressed.

❾ LAP (elapsed)/REMAINING TIME button
The time counter normally indicates elapsed time.
When this button is pressed, the time counter will show the time remaining before the end of the last selection, preceded by a minus sign.
When this button is pressed a second time, the time counter will again become a normal time counter.

❿ AUTOMATIC MUSIC SENSOR buttons
|◀◀ (back selection) button: Press to go back to a previous selection.
▶▶| (forward selection) button: Press to skip ahead to a later selection.

⓫ Manual search buttons
Keep holding the appropriate button down to search for a particular point on the disc during either play or pause.
You can monitor the disc sound reproduced in forward or in reverse at a high speed while searching during play.

When you release this button, normal-speed play will resume (during play) or the player will return to the pause mode (during pause).

◀◀ **button:** To go backwards at a high speed (several times higher than the normal playing speed).

◀◀◀ **button:** To go backwards at a higher speed than the ◀◀ button.

▶▶ **button:** To skip ahead at a high speed (several times higher than the normal playing speed).

▶▶▶ **button:** To skip ahead at a higher speed than the ▶▶ button.

⑫ ▶ PLAY button and indicator

Press to start normal disc play. The built-in ▶ indicator will illuminate.

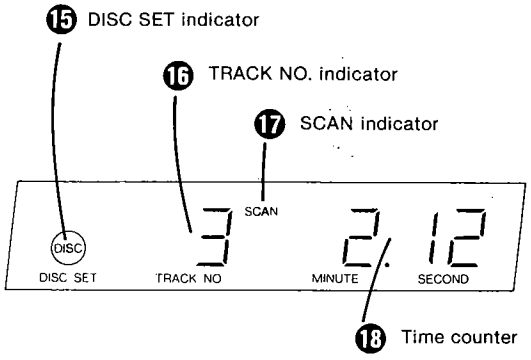
⑬ ❚❚ PAUSE button and indicator

Press to pause during play. The built-in ❚❚ indicator will illuminate. To release the pause mode, press this button again. The indicator will go off and disc play will resume.

⑭ RESET button

When this button is pressed, disc play is reset to the very beginning of the first selection and the player stands by.

Display window



⑮ DISC SET indicator

The indicator flickers when the disc compartment is moving.
When the disc compartment has closed with a disc in place (in the standby mode), and during disc playing, the indicator illuminates steadily.

⑯ TRACK NO. indicator

The indicator shows the track number of the selection being played.
If you press the ▶▶ or ▶▶▶ button at the end of the disc, the indicator will change to "77" indicating that the end of the last selection has been reached. To return to a previous selection number, press the RESET, |◀◀, ◀◀ or ◀◀◀ button. If you press the ◀◀ or ◀◀◀ button at the beginning of the disc, the indicator will change to "LL", indicating that the beginning of the first selection has been reached.

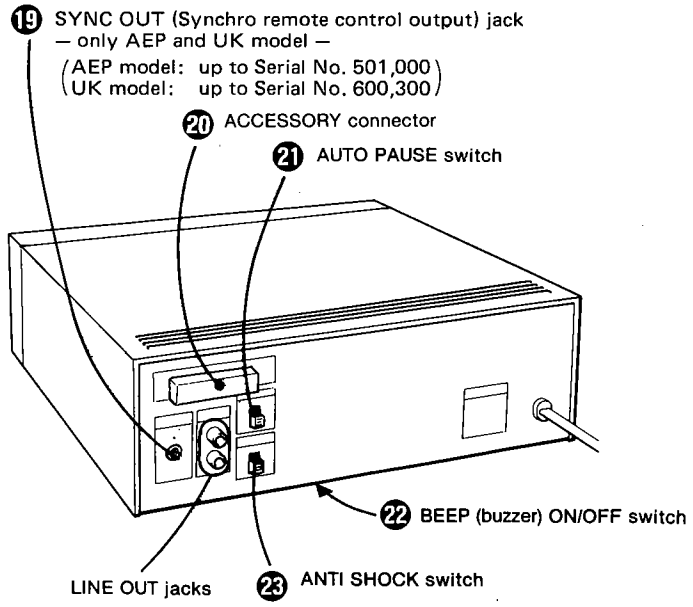
⑰ SCAN indicator

This indicator illuminates while the player is searching for the point on the disc you have programmed.

⑱ Time counter

The counter shows the location in a particular selection by means of actual elapsed time. The first two digits of the counter show playing time of the selection in minutes, and the last two digits show the seconds.

Rear panel


⑲ SYNC OUT (Synchro remote control output) jack
— only AEP and UK model —
(AEP model: up to Serial No. 501,000
UK model: up to Serial No. 600,300)
⑳ ACCESSORY connector
㉑ AUTO PAUSE switch
㉒ BEEP (buzzer) ON/OFF switch
LINE OUT jacks
㉓ ANTI SHOCK switch

⑲ SYNC OUT (synchro remote control output) jack

— only AEP and UK model —

(AEP model: up to Serial No. 501,000
UK model: up to Serial No. 600,300)

Used for synchronized operation with Sony cassette decks. See page 20.

⑳ ACCESSORY connector

Used to extend the utility of this compact disc player by providing for the connection of optional equipment which will be available in the future.
Do not remove the cover except when connecting any equipment to this connector.

㉑ AUTO PAUSE switch

Normally set to OFF.
When this player is used with an optional microphone amplifier, set to ON to pause after having played each selection.
This auto pause mode is released when the START key on the Remote Commander is pressed.

㉒ BEEP (buzzer) ON/OFF switch (bottom)

Set to ON to have a signal tone sounded when a signal from the supplied Remote Commander is received. Set the switch to OFF when a signal tone is not necessary.

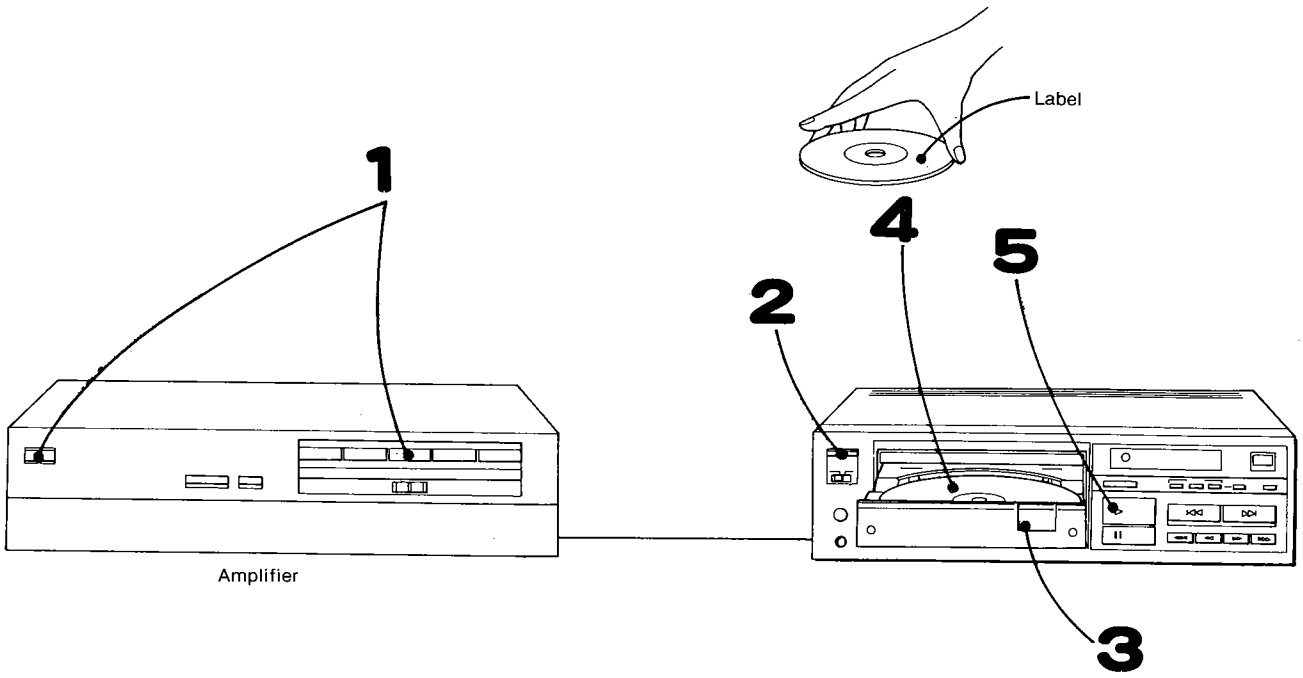
㉓ ANTI SHOCK switch

When the player is used in a place subject to excessive vibration and the disc skips frequently, set this switch to ON.
However, when a defective disc is played with this switch set to ON, and it may skip frequently, set this switch to OFF.

1-5. OPERATIONS

DISC PLAYING

TO PLAY



1 Turn the amplifier on and set the input selector to the position corresponding to the input jacks to which the CD player is connected.
2 Depress the POWER switch to turn the player on.
3 Press the OPEN/CLOSE button to open the disc compartment. The DISC SET indicator flickers and the compartment opens.
4 Holding the disc by the rim, place it with the label side up on the compartment.
5 Press the ▶ PLAY button. The compartment will close and play will begin from the beginning of the first selection.

If you press the AUTOMATIC MUSIC SENSOR buttons with the compartment opened, then press the ▶ PLAY button, the compartment will close and play will begin from that selection.

When the player reaches the end of the last selection of the disc, it is automatically reset to the beginning of the disc and stands by. To open the compartment, press the OPEN/CLOSE button.

An important point to remember
In the CD system, a wider dynamic range is achieved than that of the conventional analog system, and the peaks of high level inputs are recorded with high-fidelity. In addition, the noise level is very low.
If you turn up the volume inadvertently while listening to a portion where no audio signals or very low level inputs are recorded, the speakers may be damaged when the portion with peak levels is played.

TO STOP DURING PLAY

To open the compartment
Press the OPEN/CLOSE button. The disc will stop rotating and the compartment will open.

To pause for a moment during play
Press the ❚❚ PAUSE button. The ❚❚ indicator will illuminates. To release pause and restart play from the same point, press the ❚❚ PAUSE button again.

To reset to the beginning of the first selection
Press the RESET button. The player will stand by.

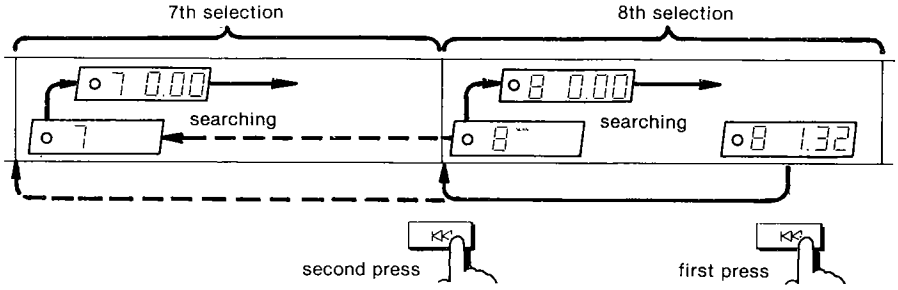
SEARCH OPERATION

TO SEARCH FOR A PARTICULAR SELECTION

Using the |◀◀ or ▶▶| button, you can quickly locate a desired selection ahead or back. When the button is pressed, the player searches the selection data recorded at the beginning of each selection and play will start from the beginning of the selection.

To search for a back selection

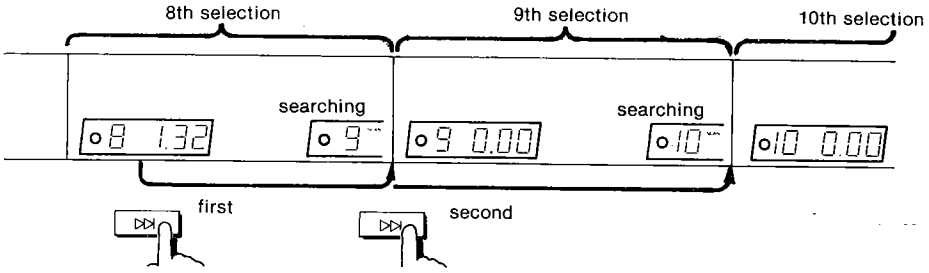
Press the |◀◀ button during play or pause.
When the |◀◀ button is pressed once, the beginning of the selection being palyed is searched for.
Each time the button is pressed, one selection back is searched for.



Press the |◀◀ button repeatedly until the desired music number is displayed.
If you press the |◀◀ button after the first selection is located, the TRACK NO. indicator will not change.

To search for a selection ahead

Press the ▶▶| button during play or pause.
When the ▶▶| button is pressed once, the next selection after that being played is searched for.
Each time the button is pressed, the selection ahead is searched for.

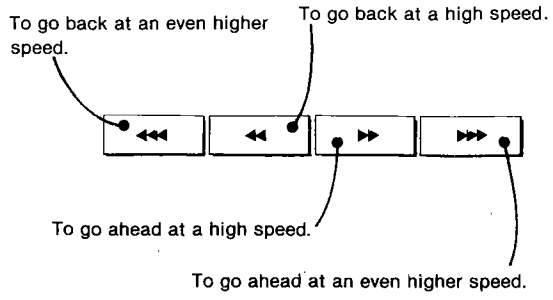


If you press the ▶▶| button after the last selection is located, the TRACK NO. display will not change.

TO SEARCH FOR A PARTICULAR POINT IN A SELECTION

Using the manual search buttons, you can locate a particular point of a selection during play or pause. While one of the manual search buttons is held down, the disc playing goes ahead or back. Release the button at the desired point found by observing the time counter or monitoring the high-speed sound during play.

Manual search buttons



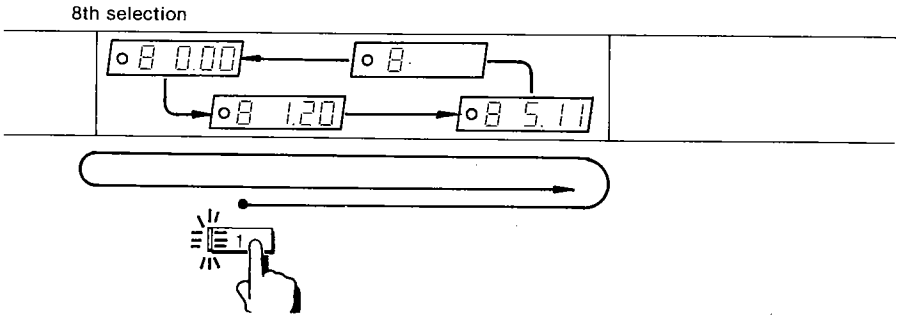
- While pressing the ▶▶▶ or ◀◀◀ button during pause, the time counter indicates only minutes.
- If you press the ▶▶ or ▶▶▶ button at the end of the disc, the TRACK NO. indicator will change to "77" (end mark).
  To return to a TRACK NO. indicator, press the |◀◀, ◀◀ or ◀◀◀ button.
- If you press the ◀◀ or ◀◀◀ button at the beginning of the disc, the TRACK NO. indicator will change to "LL" (start mark).

REPEAT PLAY

Using the REPEAT programming buttons, you can repeat the selection being played, the whole disc, or particular portion of the disc.

TO REPEAT ONLY THE SELECTION BEING PLAYED

Press the **1** button during play. The built-in indicator will illuminate. When the disc reaches the end of the selection, it will automatically go back to the beginning of the selection and play will restart.

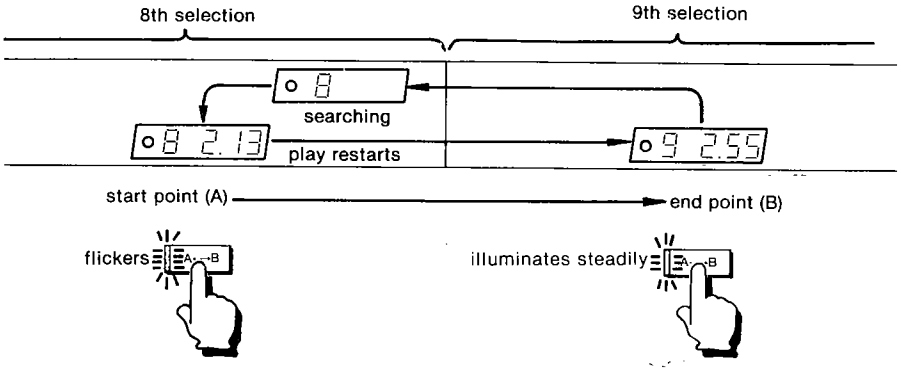


TO REPEAT THE WHOLE DISC

Press the **ALL** button. The built-in indicator will illuminate.
When the disc reaches the end of the last selection, the player will automatically go back to the beginning of the first selection, and play will restart.

TO REPEAT BETWEEN PARTICULAR POINTS

1 When the disc plays the point from which you wish to start the repeat play (point A), press the **A ↔ B** button. The built-in indicator will start flickering showing the A point is memorized.
2 When the disc reaches the point at which you wish to stop the repeat play (point B), press the **A ↔ B** button again. The built-in indicator will then illuminate steadily showing the B point is memorized. The disc will go back to the A point and play will restart.



MORE ABOUT A ↔ B REPEAT FUNCTION

To play from a desired point (memory play)

1 At the point from which you wish to listen later (point A), press the A ↔ B button.
2 When you press the ▶ PLAY button, the disc will go back to the point A and play will restart.

To cancel the point A, press the CLEAR button.

To repeat the whole disc eliminating an unwanted portion (jump repeat)

1 At the point where you wish to end the portion to be eliminated (point A), press the A ↔ B button.
2 Press the ⏮, ◀◀ or ◀◀◀ button to search for the point from which you wish to start eliminating (point B), and then press the A ↔ B button. The repeat play eliminating the B — A portion will start.

To cancel, press the CLEAR button.

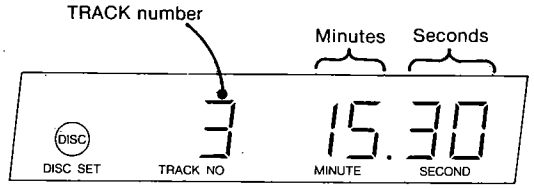
TO CANCEL THE REPEAT PLAY

The **1** or **ALL** repeat play continues until the button is pressed again.
To cancel the **A ↔ B** repeat play, press the **CLEAR** button.
Any repeat program is also cancelled when another REPEAT programming button is pressed.

USING THE TIME COUNTER

TO MONITOR THE ELAPSED PLAYING TIME

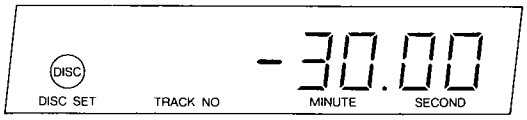
Generally, the time counter shows the elapsed playing time from the beginning of the selection in minutes and seconds.
When a new selection starts, the counter is reset to "0.00" and then starts counting time again.
If the selection has a blank space at its beginning, the counter is reset to the time preceded by the minus sign such as "–0.02", "–0.01", etc.



shows 15 minutes 30 seconds has elapsed from the beginning of the third selection

TO MONITOR THE REMAINING PLAYING TIME

When the LAP/REMAINING TIME button is pressed, the counter shows the remaining time, preceded by a minus sign, before the end of the last selection.



shows 30 minutes 00 seconds remaining before the end of the disc

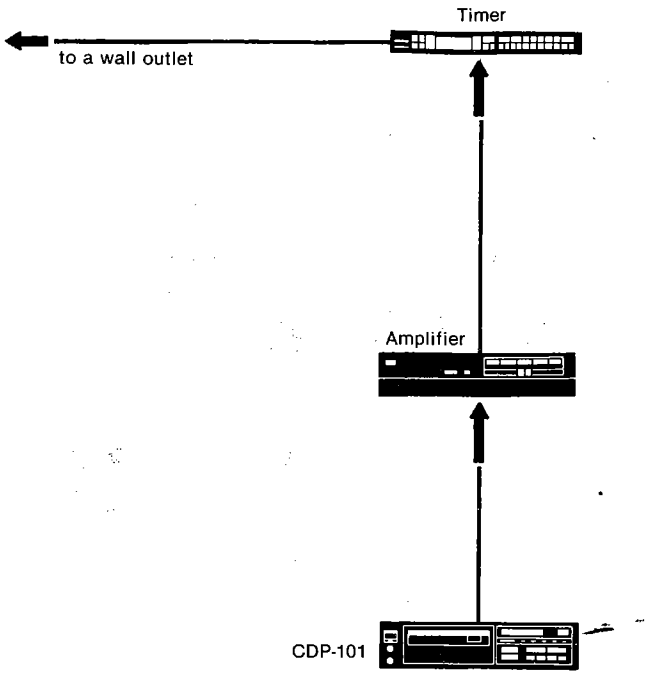
The digits will change, for example, from –30.00 to –29.59, –29.58... as the play goes on, and you can monitor the remaining playing time at any point of the disc.

To return the counter to the elapsed time, press the LAP/REMAINING TIME button again.
When the RESET or OPEN/CLOSE button is pressed, the counter will also return to an elapsed time indication.
Note: When the ⏮ or ⏭ button is pressed, the counter will show the track number of the selection for a few seconds.

TIMER-ACTIVATED PLAY

By connecting any of several commercially-available timers, you can play a disc at any desired time.

Power connection



To play using a timer

1 Set the player's TIMER PLAY switch to OFF.
2 Turn on the amplifier and set the appropriate switches for disk playing.
3 Turn on the player and insert a disc.
4 Set the timer for the desired time.
(At this point, power will be cut off.)
5 Set the player's TIMER PLAY switch to ON.

The player is now ready to start play of the first selection at the time set on the timer.

After the timer-activated play has been completed...
Be sure to set the TIMER PLAY switch of the CDP-101 to OFF.

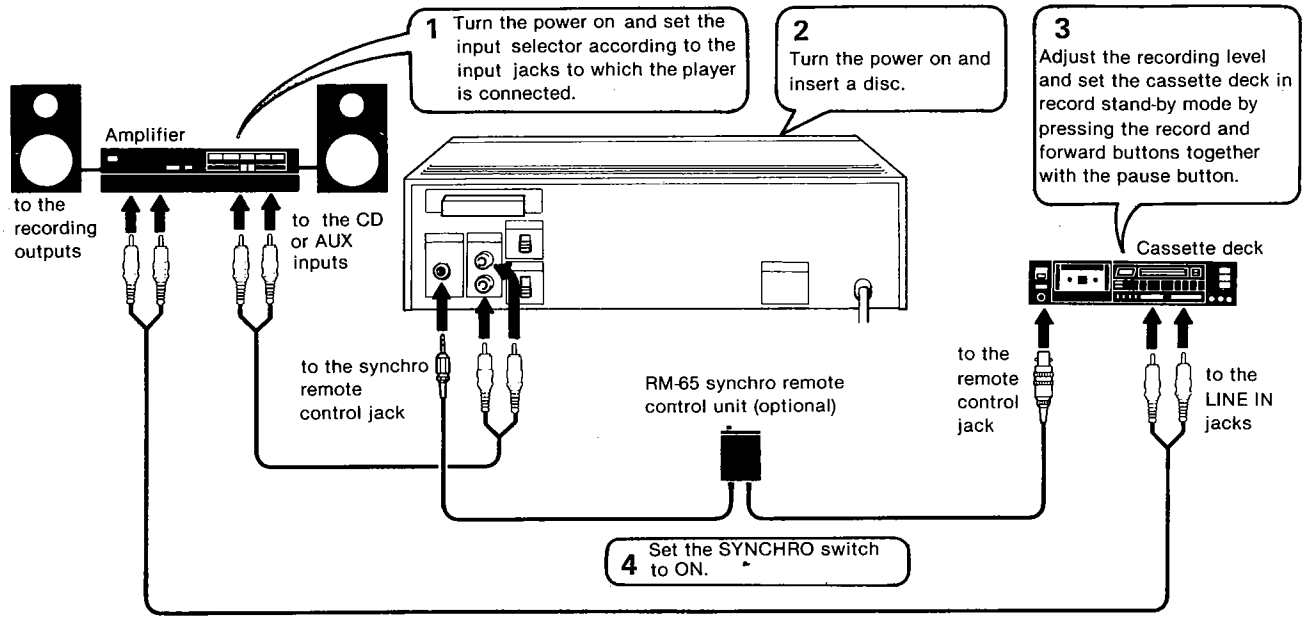
SYNCHRONIZED PLAY OF THE PLAYER AND A CASSETTE DECK — Only AEP and UK model —

(AEP model: up to Serial No. 501,000 UK model: up to Serial No. 600,300)

If an RM-65 synchro remote control unit is used to connect this player with a Sony cassette deck equipped with a 4-pin remote control jack, the operation of the player and the cassette deck will be synchronized.

Cassette decks which can be used with your CD player for this special synchronized operation are those Sony models which are equipped with a 4-pin remote control jack.
An RM-65 synchro remote control unit (optional) is required to connect the CD player and the cassette deck.

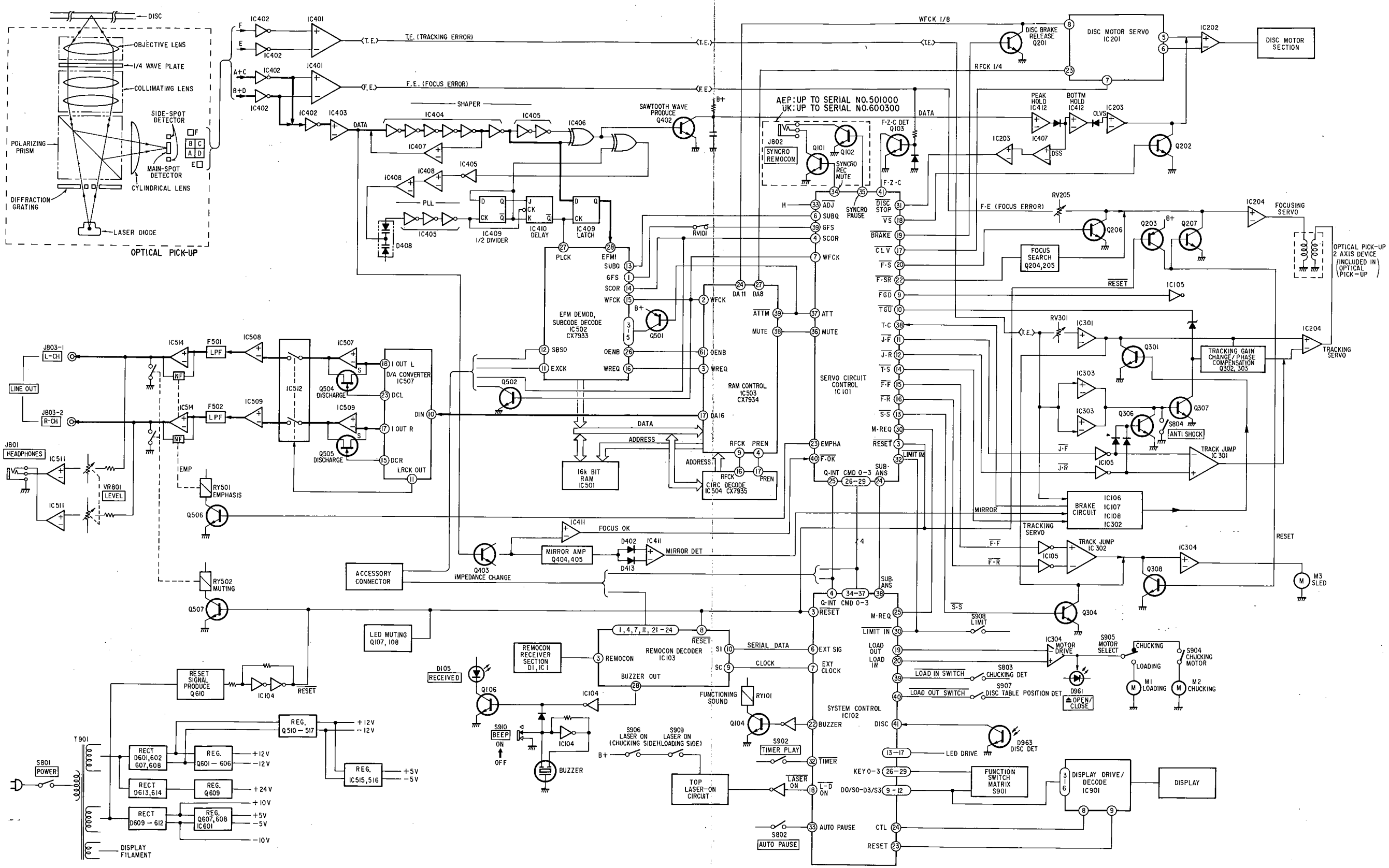
CONNECTION AND PREPARATION


1 Turn the power on and set the input selector according to the input jacks to which the player is connected.
2 Turn the power on and insert a disc.
3 Adjust the recording level and set the cassette deck in record stand-by mode by pressing the record and forward buttons together with the pause button.
Amplifier
to the recording outputs
to the CD or AUX inputs
Cassette deck
to the synchro remote control jack
RM-65 synchro remote control unit (optional)
to the remote control jack
to the LINE IN jacks
4 Set the SYNCHRO switch to ON.

RECORDING

Desired action	Player operation	Synchro operation of the cassette deck
To record from the beginning of a disc...	Press the ▶ PLAY button.	When play begins, the pause mode is released and recording begins.
To record from a particular point on a disc...	Press the ❚❚ PAUSE button and select the desired point with the ⏮, ⏭ or manual search buttons, then press the ❚❚ PAUSE button again to release the pause mode.	When play begins, the pause mode is released and recording begins.
To move to a different point on a disc...	At the point where you wish to stop recording, press the ❚❚ PAUSE button. Select the desired point with the ⏮, ⏭ and manual search buttons, then press the ❚❚ PAUSE button again to release the pause mode.	When play stops, auto record muting activates for four seconds then the pause mode is assumed. When play starts, the pause mode is released and recording begins.
When play ends...	Disc play is automatically reset to the beginning of the first selection and the player stands by.	When play stops, auto record muting activates for four seconds then the pause mode is assumed.
To stop recording during play...	Press the RESET button.	

1-6. BLOCK DIAGRAM



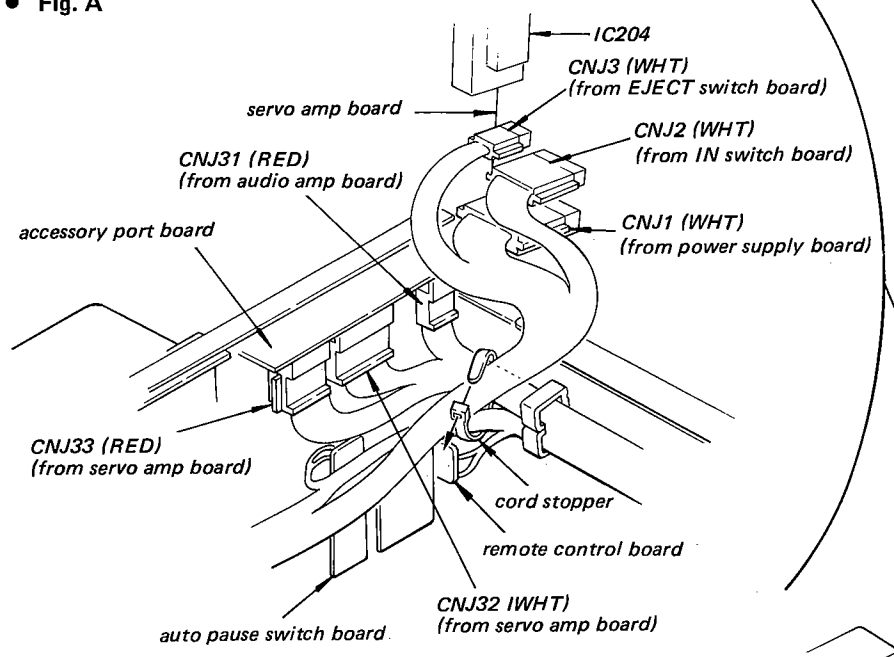
SECTION 2
DISASSEMBLY

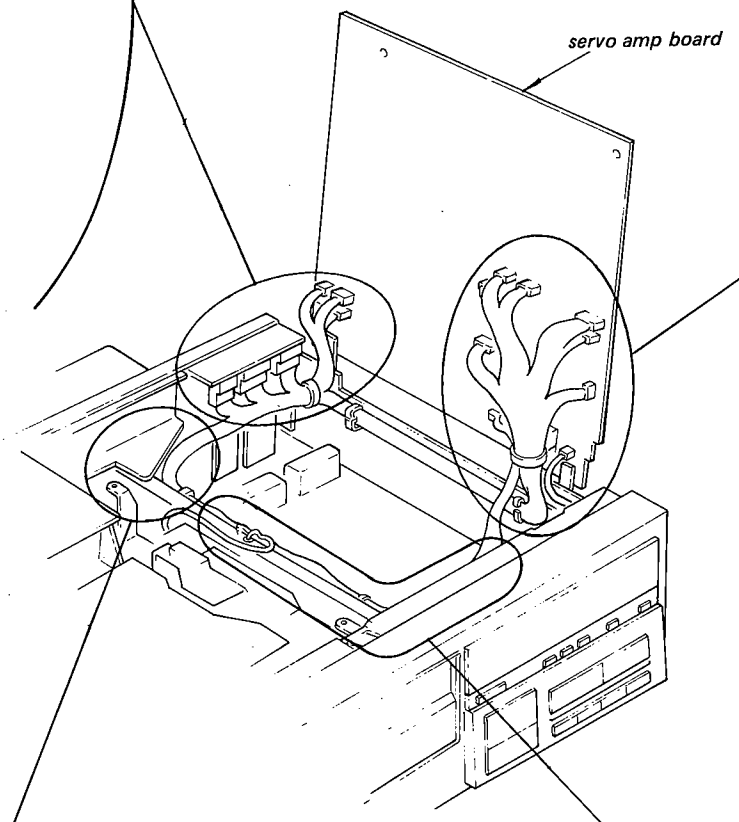
2-1. DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

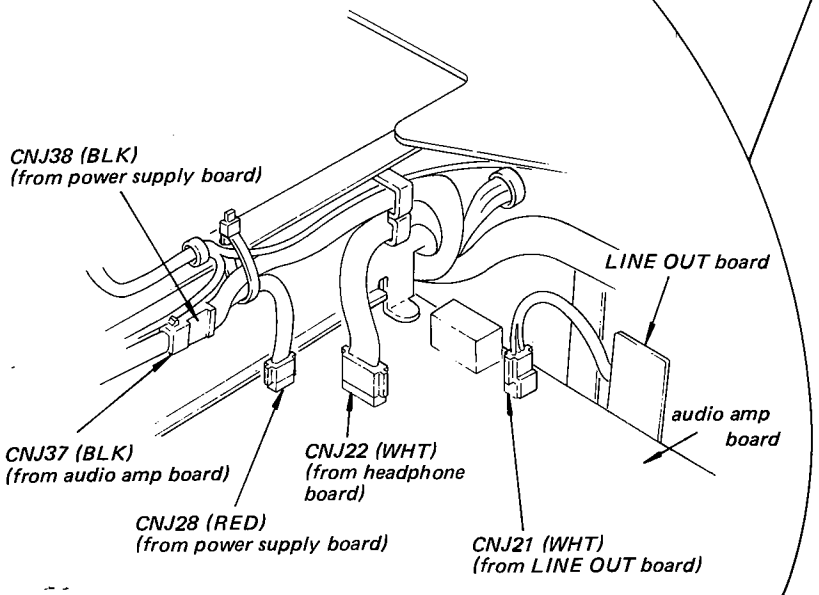
REFERENCE FOR WIRING

● **Fig. A**

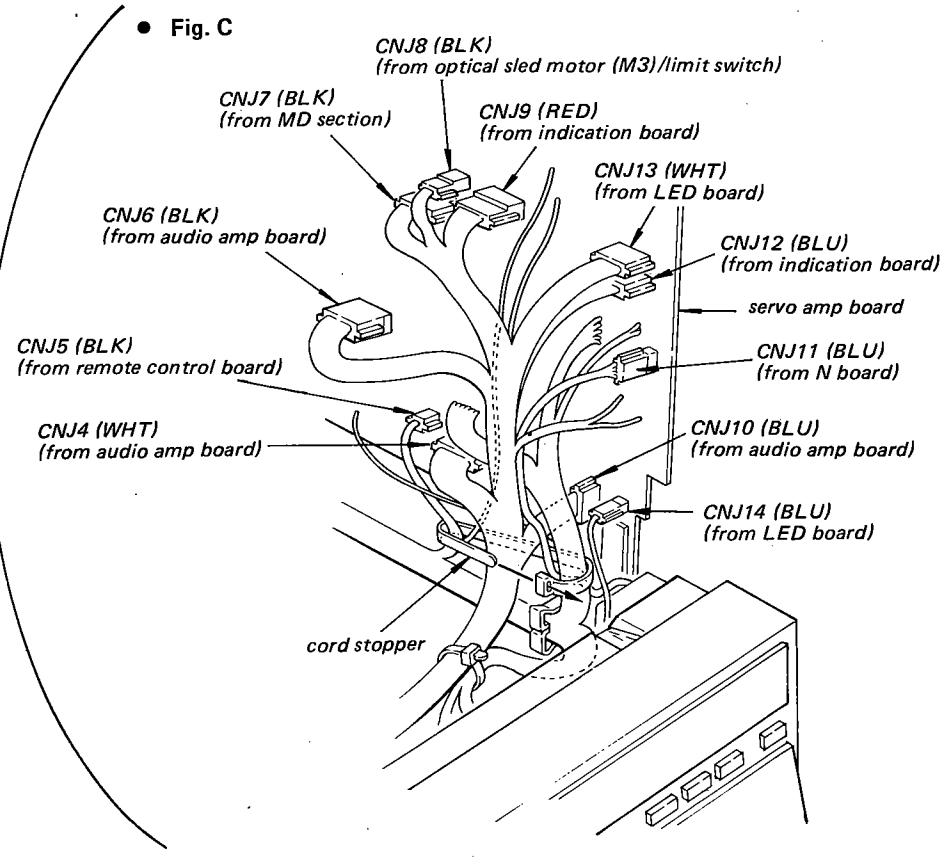




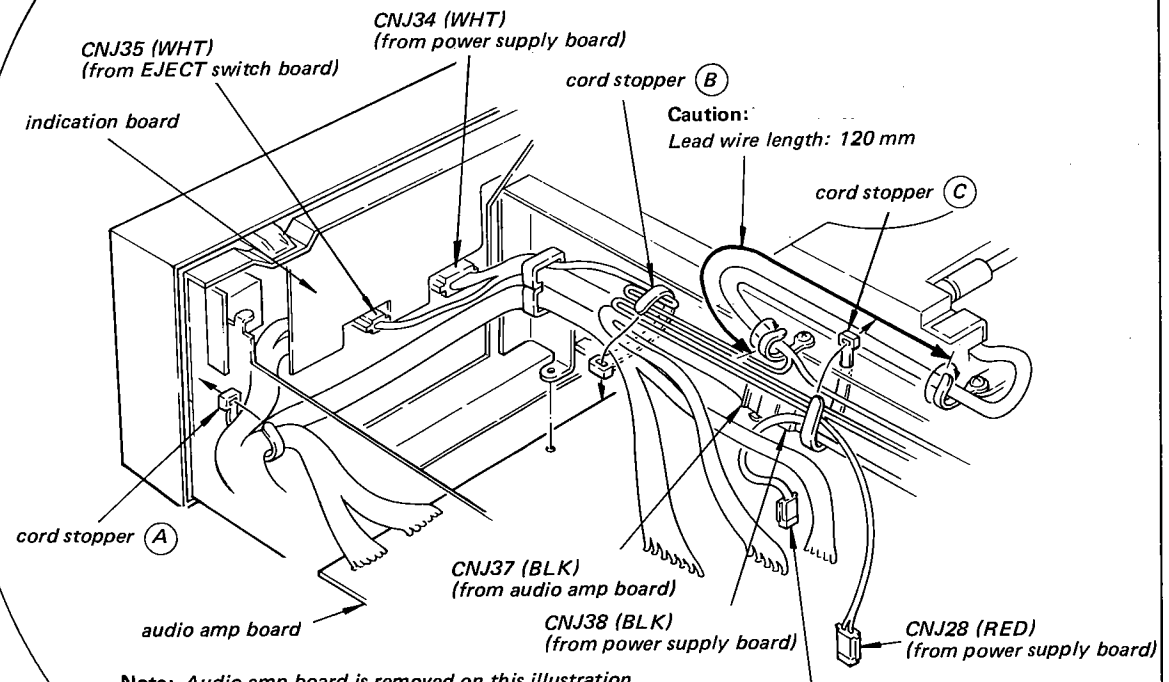
● **Fig. B**



● **Fig. C**

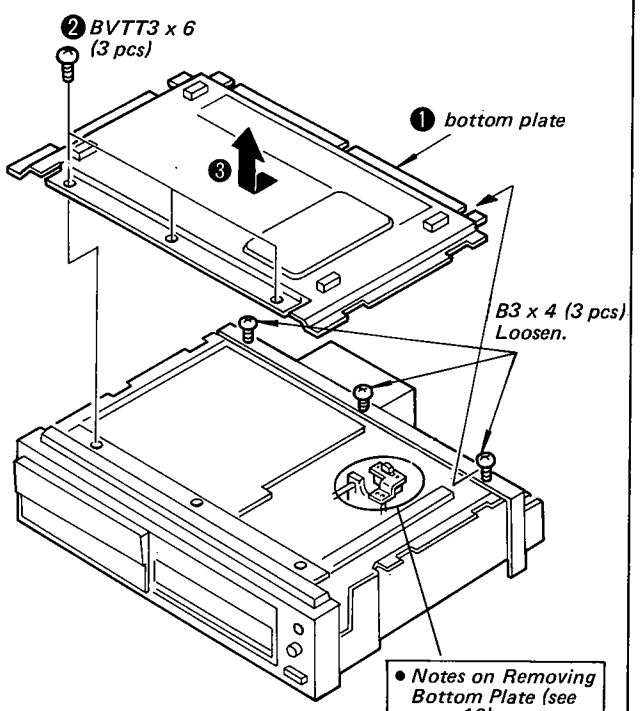


● **Fig. D**



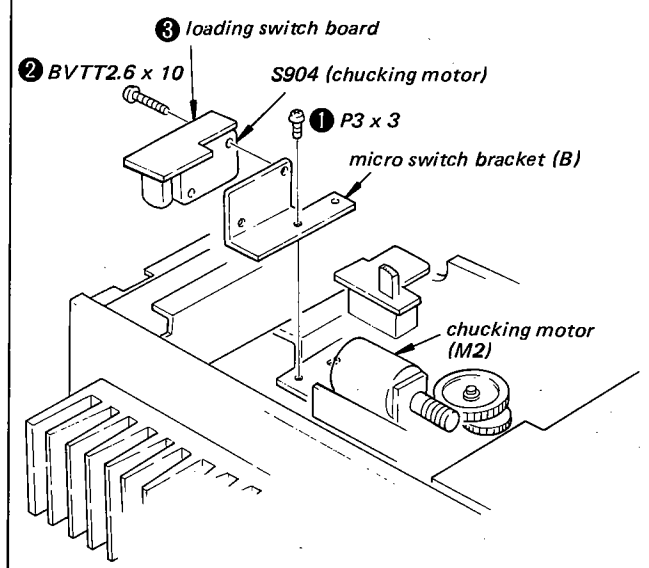
Note: *Audio amp board is removed on this illustration. Therefore, the soldering portion of CNJ24 and CNJ37 cannot be seen with audio amp board installed.*

BOTTOM PLATE



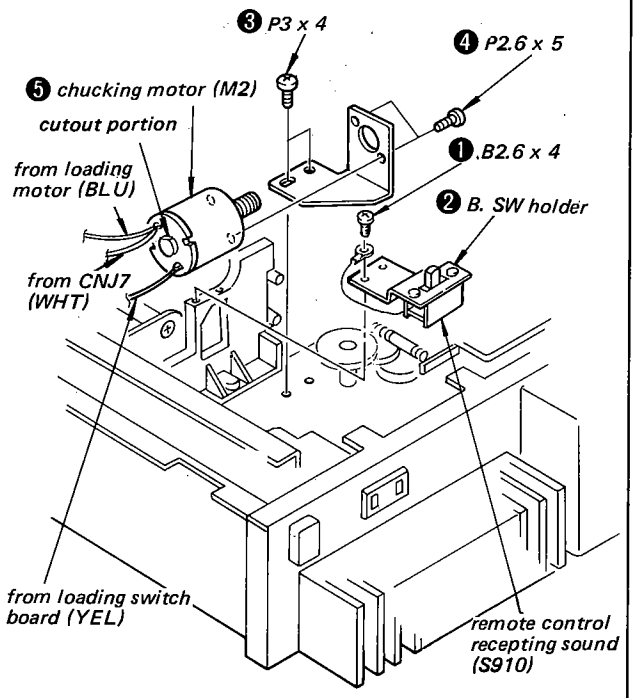
• Notes on Removing Bottom Plate (see page 10).

LOADING SWITCH BOARD

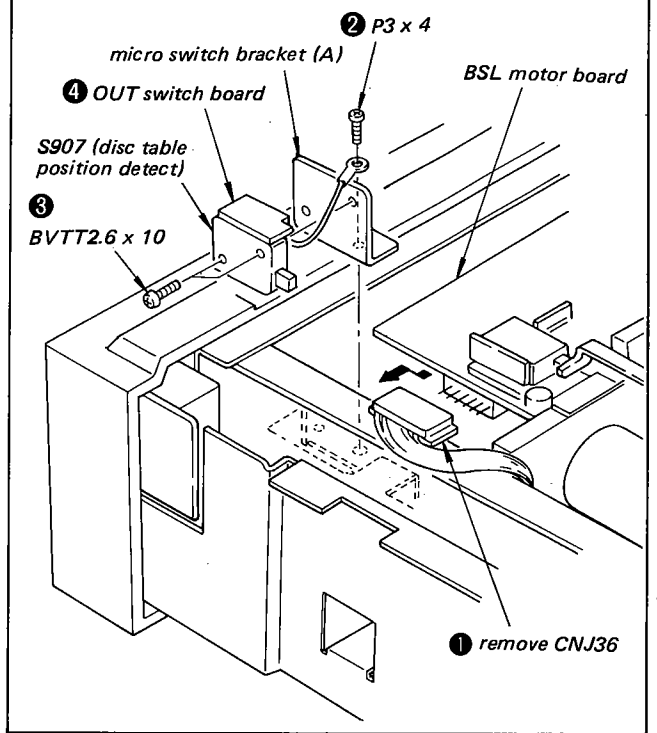


CHUCKING MOTOR (M2)

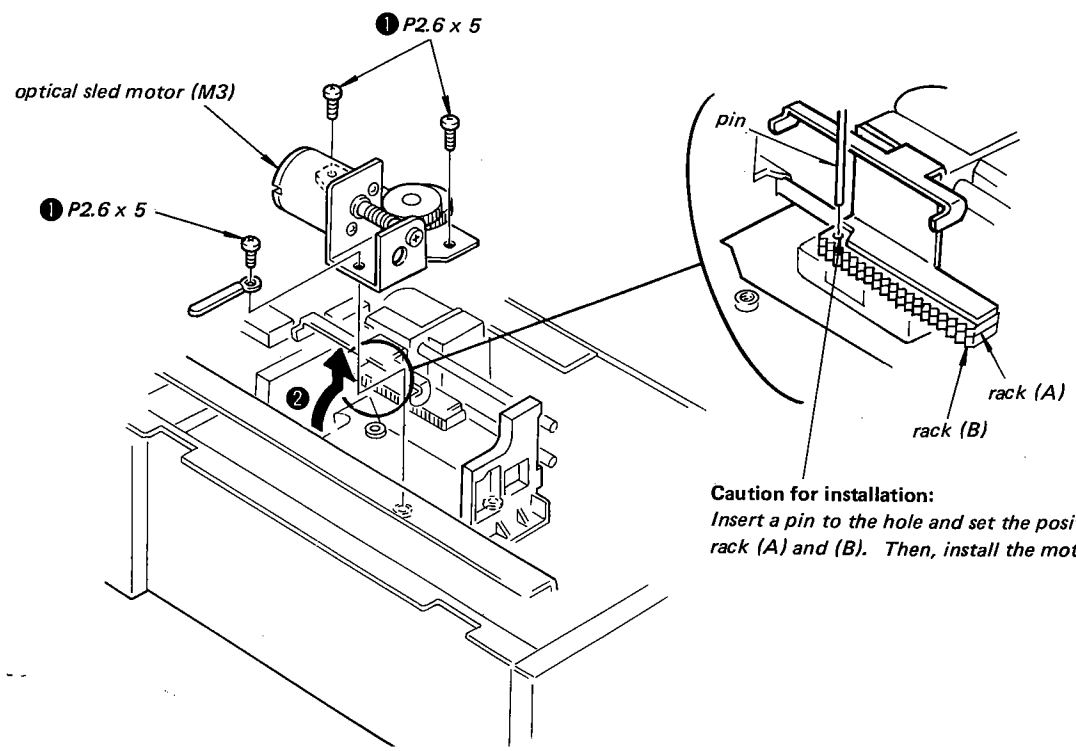
Install the motor so that the cutout portion locates as shown below.



OUT SWITCH BOARD

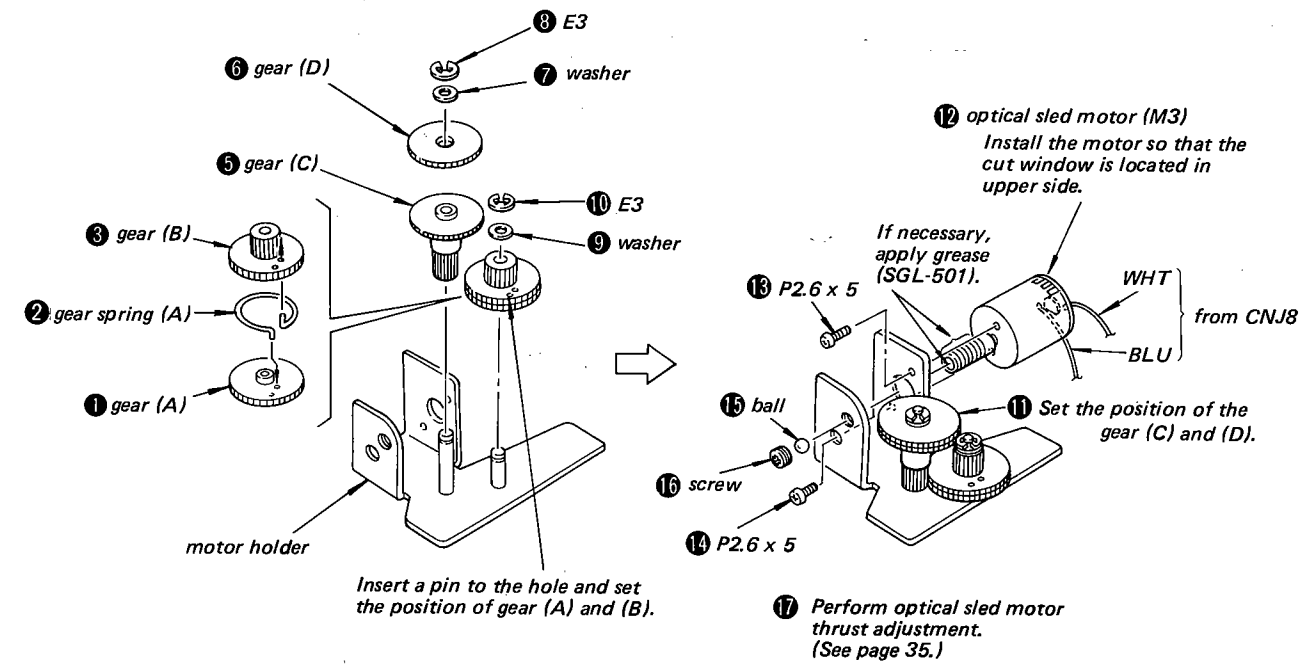


OPTICAL SLED MOTOR

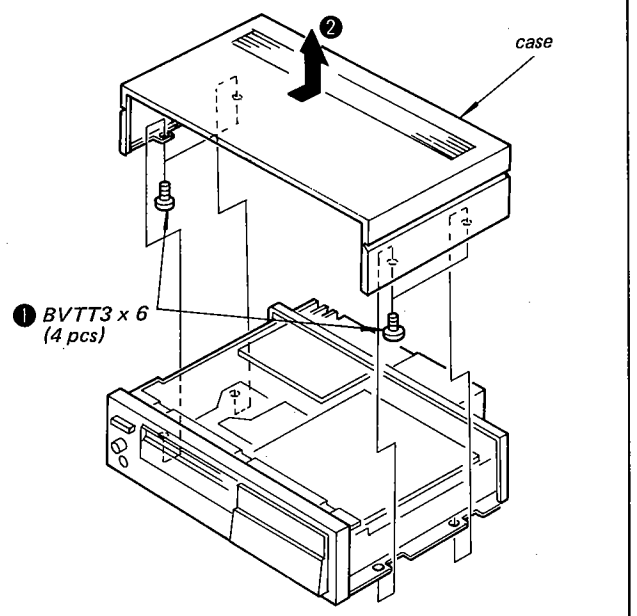


Caution for installation:
Insert a pin to the hole and set the position of rack (A) and (B). Then, install the motor.

OPTICAL SLED MOTOR ASSEMBLY


❽ E3
❻ gear (D)
❼ washer
❺ gear (C)
❿ E3
❸ gear (B)
❾ washer
❷ gear spring (A)
❶ gear (A)
motor holder
Insert a pin to the hole and set the position of gear (A) and (B).
⓬ optical sled motor (M3)
Install the motor so that the cut window is located in upper side.
If necessary, apply grease (SGL-501).
⓭ P2.6 x 5
WHT
BLU
from CNJ8
⓯ ball
⓫ Set the position of the gear (C) and (D).
⓰ screw
⓮ P2.6 x 5
⓱ Perform optical sled motor thrust adjustment. (See page 35.)

CASE

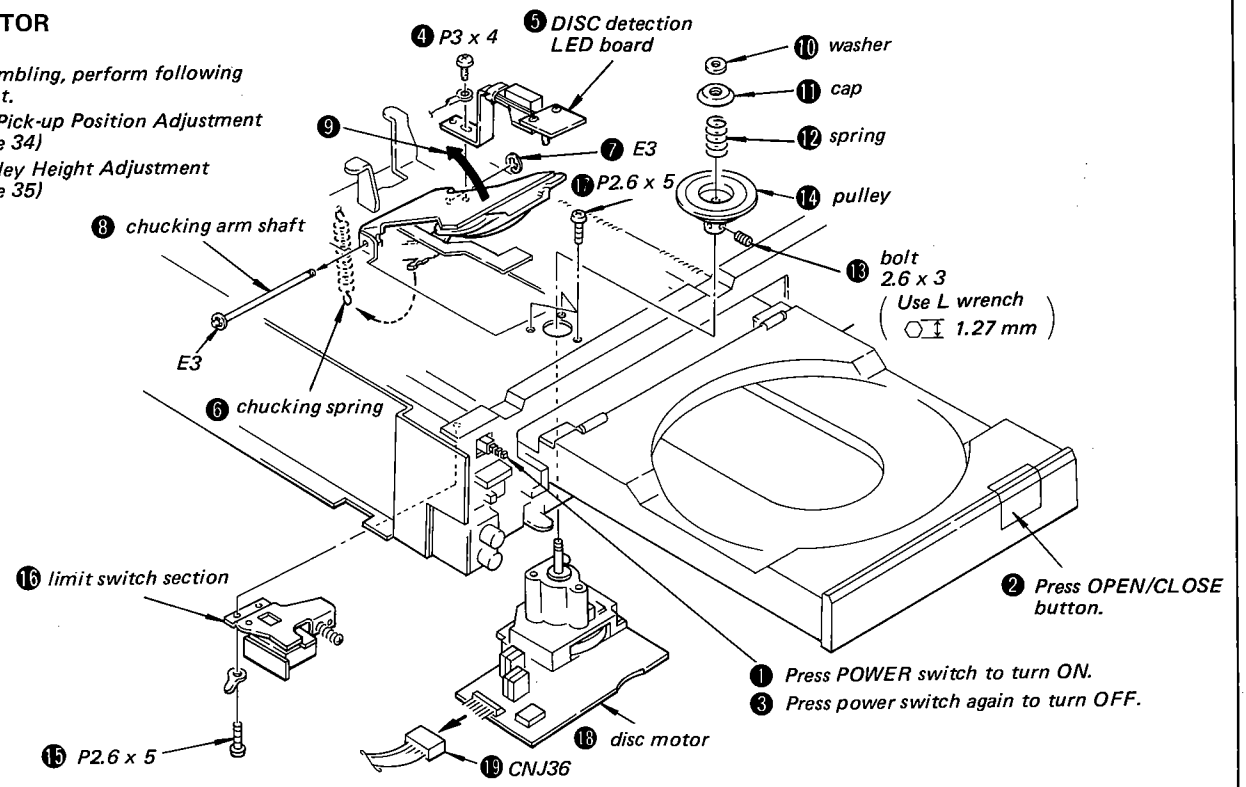


DISC MOTOR

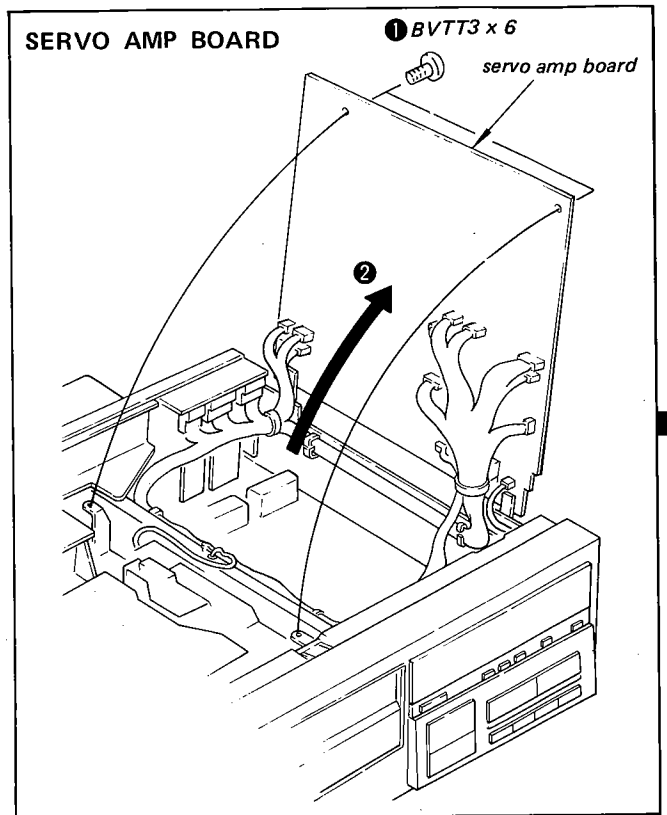
Caution:

After assembling, perform following adjustment.

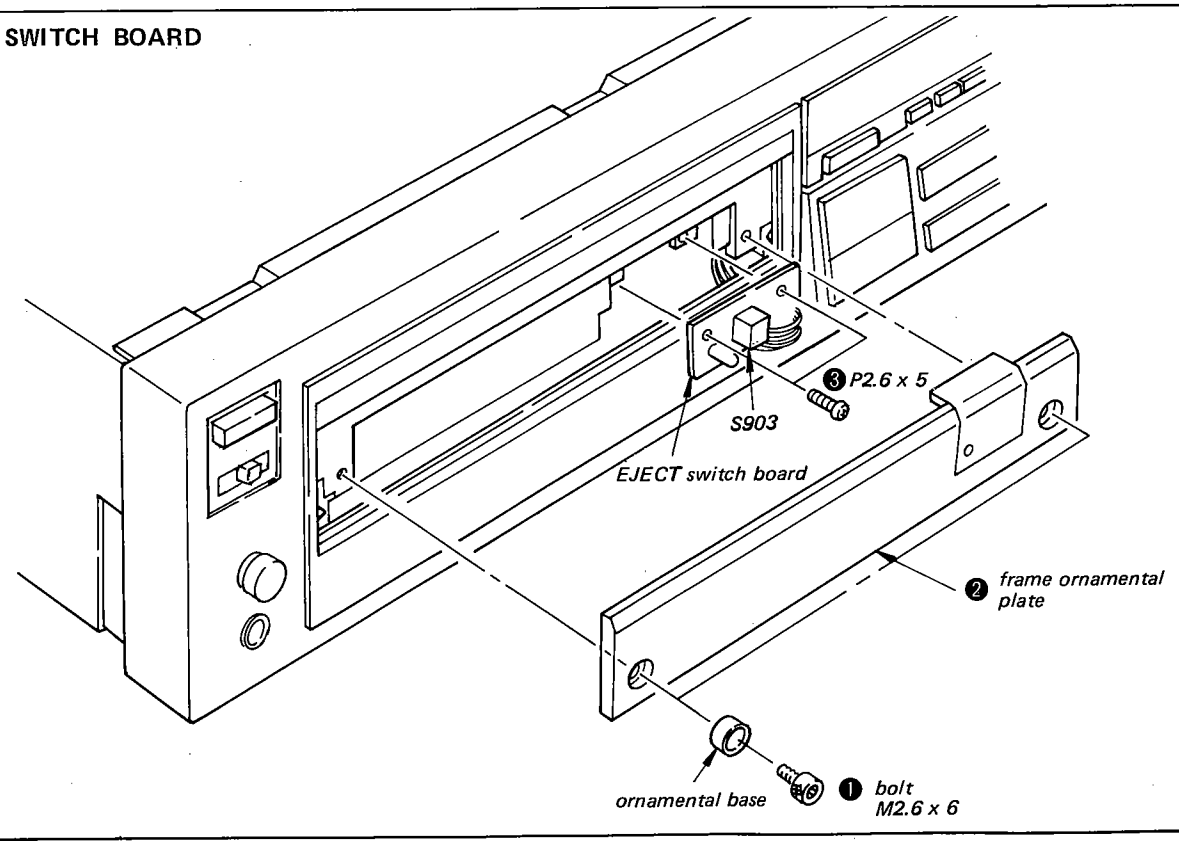
- *Optical Pick-up Position Adjustment (see page 34)*
- *Disc Pulley Height Adjustment (see page 35)*



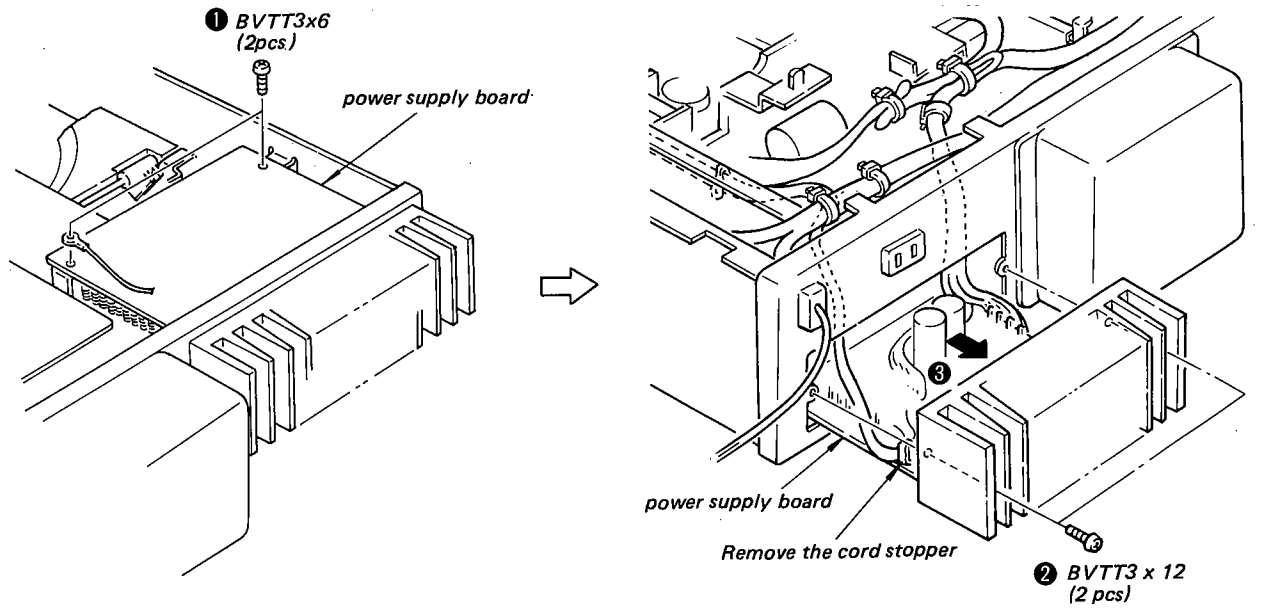
SERVO AMP BOARD



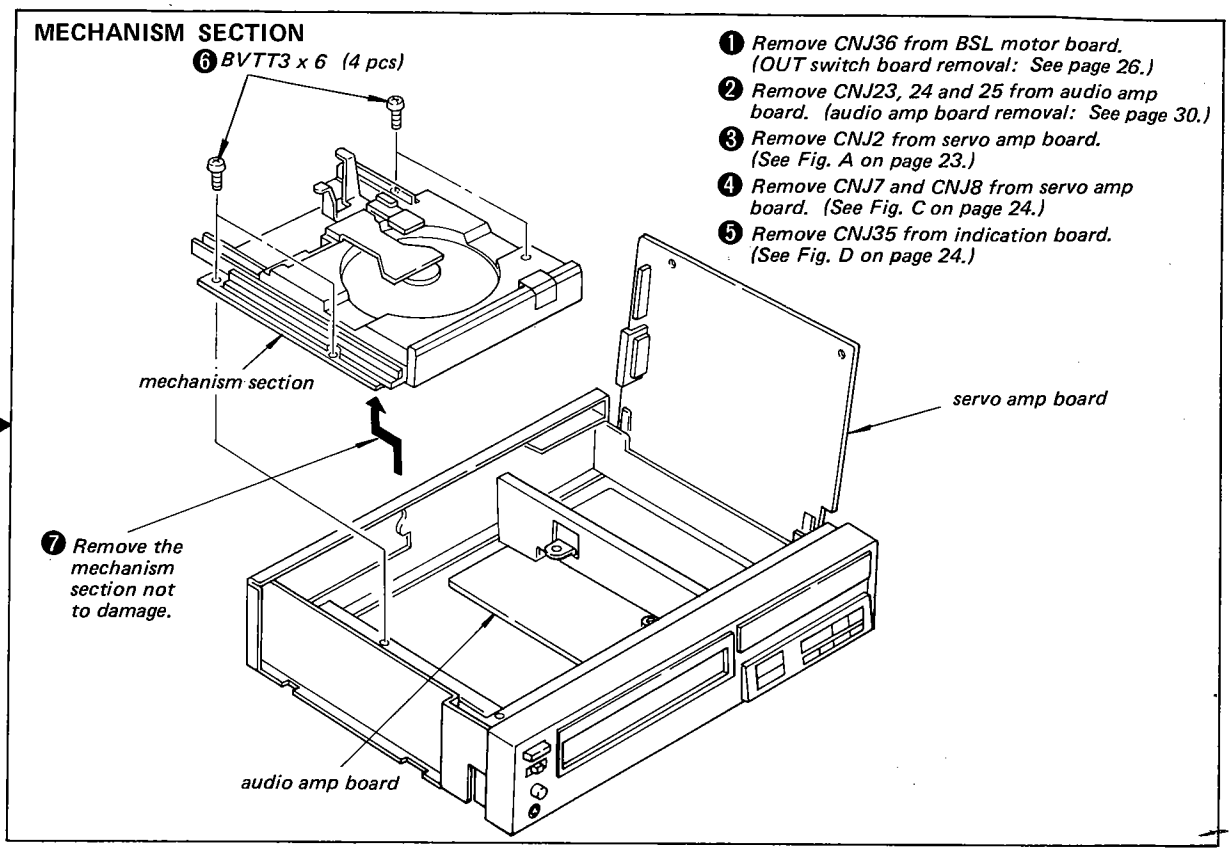
EJECT SWITCH BOARD



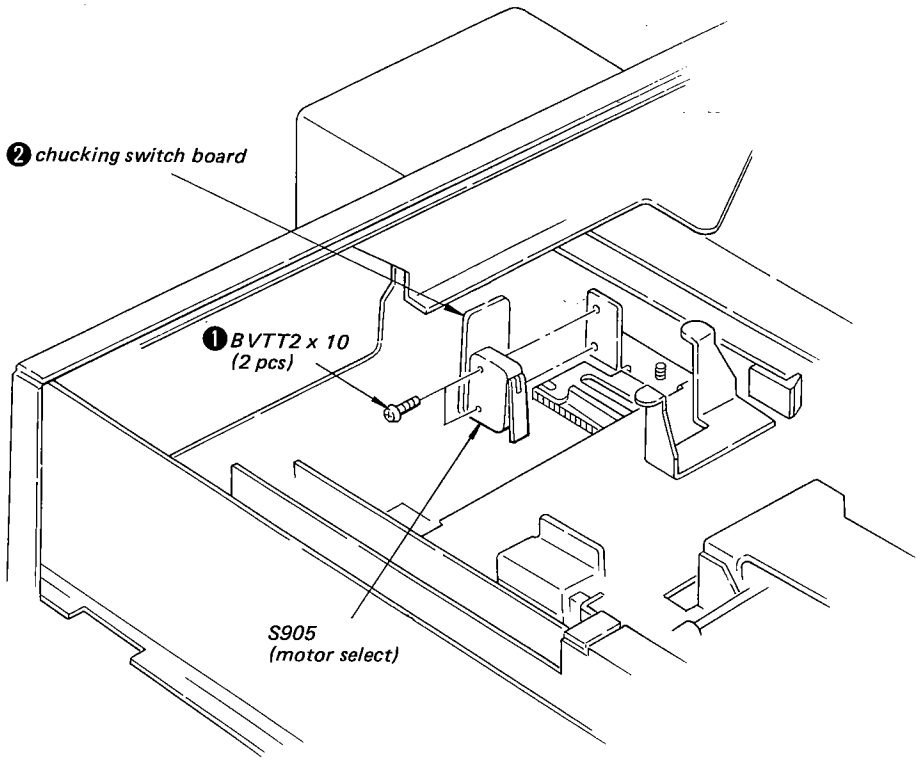
POWER SUPPLY BOARD



MECHANISM SECTION

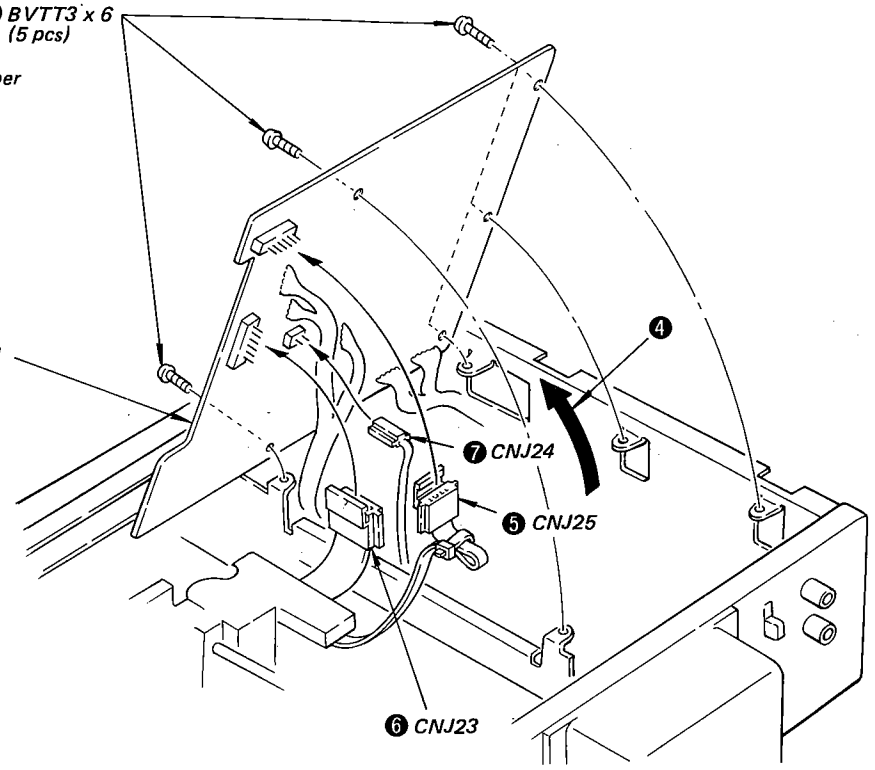

❻ BVTT3 x 6 (4 pcs)
❶ Remove CNJ36 from BSL motor board. (OUT switch board removal: See page 26.)
❷ Remove CNJ23, 24 and 25 from audio amp board. (audio amp board removal: See page 30.)
❸ Remove CNJ2 from servo amp board. (See Fig. A on page 23.)
❹ Remove CNJ7 and CNJ8 from servo amp board. (See Fig. C on page 24.)
❺ Remove CNJ35 from indication board. (See Fig. D on page 24.)
mechanism section
servo amp board
❼ Remove the mechanism section not to damage.
audio amp board

CHUCKING SWITCH BOARD

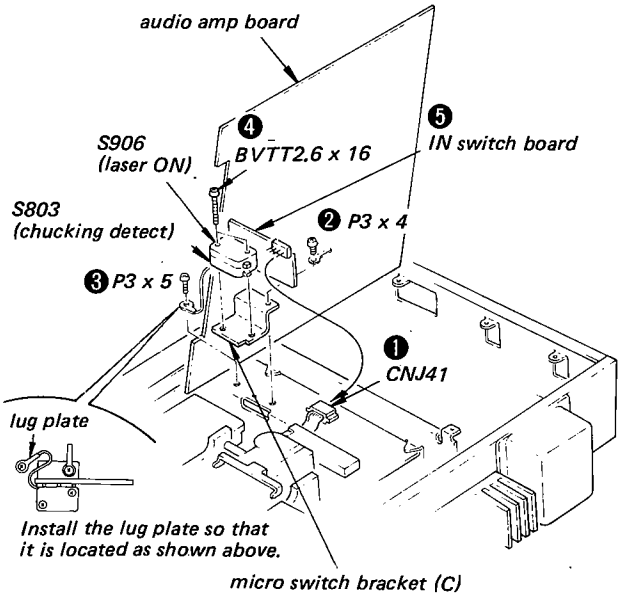


Remove the servo amp board.
(See page 28.)

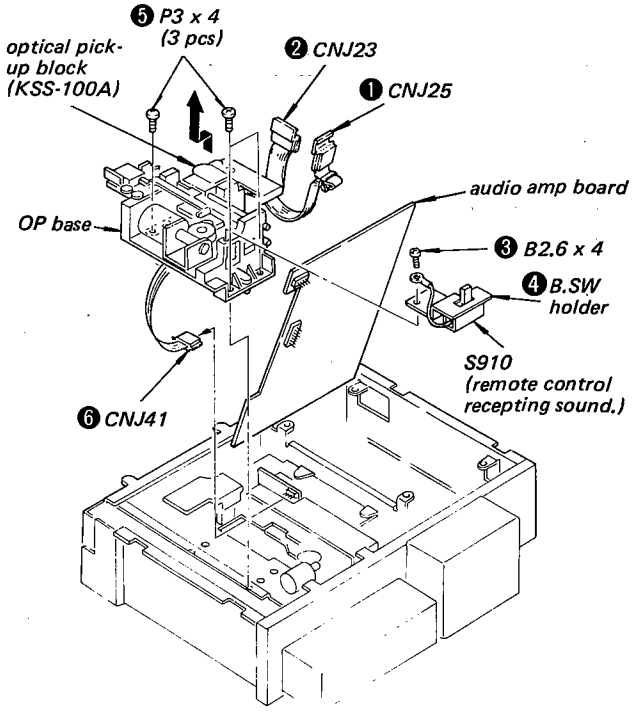
AUDIO AMP BOARD


❸ BVTT3 x 6 (5 pcs)
❶ Remove CNJ28 and cord stopper Ⓑ from audio amp board. (See Fig. D on page 24.)
❷ Remove CNJ21, CNJ22 from audio amp board. (see Fig. B on page 23.)
audio amp board
❹
❼ CNJ24
❺ CNJ25
❻ CNJ23

IN SWITCH BOARD

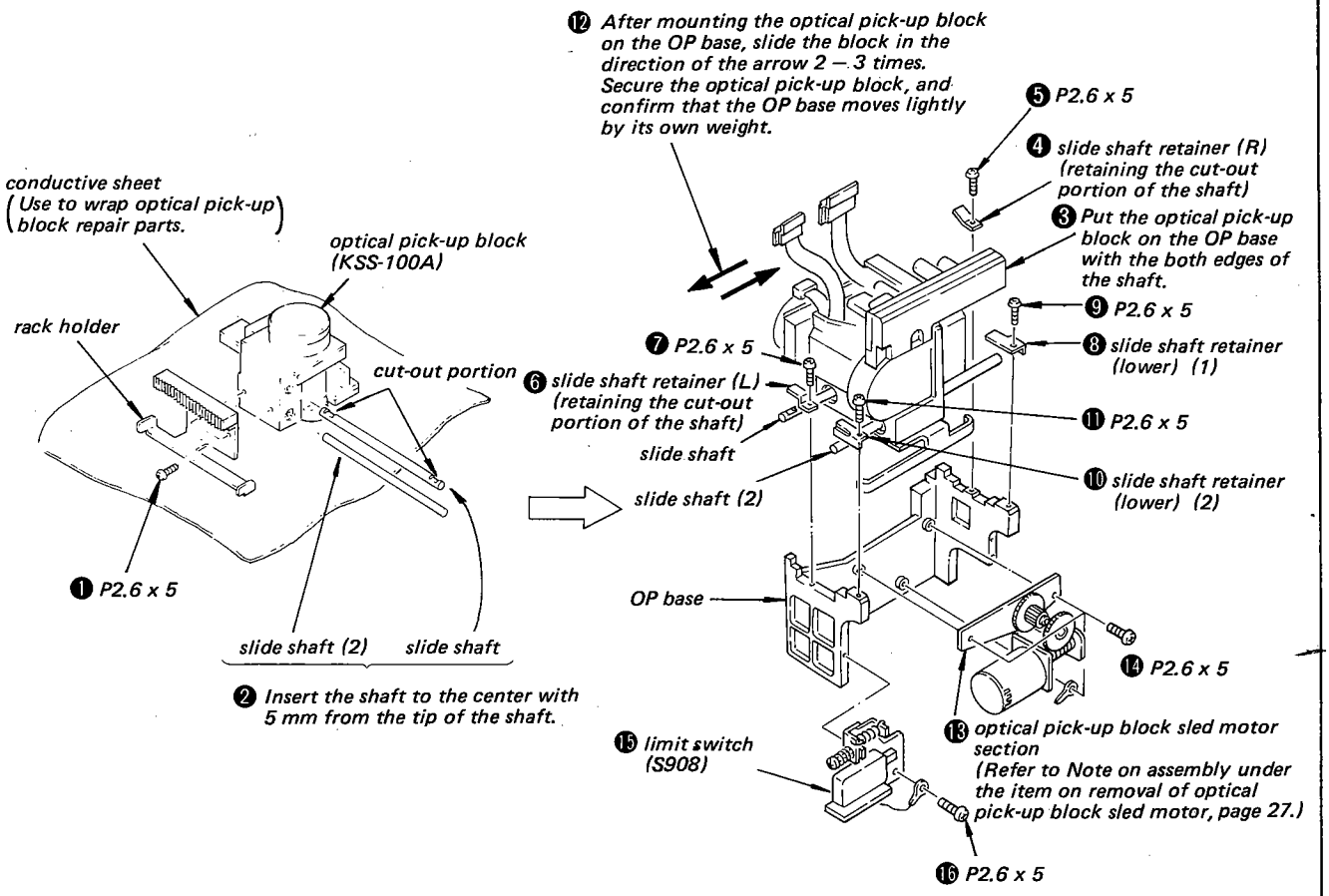

audio amp board
❹ BVTT2.6 x 16
❺ IN switch board
S906 (laser ON)
S803 (chucking detect)
❷ P3 x 4
❸ P3 x 5
❶ CNJ41
lug plate
Install the lug plate so that it is located as shown above.
micro switch bracket (C)

OPTICAL PICK-UP BLOCK



OPTICAL PICK-UP BLOCK ASSEMBLY

Refer to the Note on Handling the Optical Pick-up Block (KSS-100A). (page 6)


⓬ After mounting the optical pick-up block on the OP base, slide the block in the direction of the arrow 2 — 3 times. Secure the optical pick-up block, and confirm that the OP base moves lightly by its own weight.
conductive sheet (Use to wrap optical pick-up block repair parts.)
optical pick-up block (KSS-100A)
rack holder
cut-out portion
❶ P2.6 x 5
slide shaft (2)
slide shaft
❷ Insert the shaft to the center with 5 mm from the tip of the shaft.
❺ P2.6 x 5
❹ slide shaft retainer (R) (retaining the cut-out portion of the shaft)
❸ Put the optical pick-up block on the OP base with the both edges of the shaft.
❾ P2.6 x 5
❽ slide shaft retainer (lower) (1)
❼ P2.6 x 5
❻ slide shaft retainer (L) (retaining the cut-out portion of the shaft)
⓫ P2.6 x 5
slide shaft
slide shaft (2)
⓾ slide shaft retainer (lower) (2)
OP base
⓮ P2.6 x 5
⓭ optical pick-up block sled motor section (Refer to Note on assembly under the item on removal of optical pick-up block sled motor, page 27.)
⓯ limit switch (S908)
⓰ P2.6 x 5

When replacing the optical pick-up block, check and adjust the items below in order.

1. RF Offset Adjustment (page 39)
2. Tracking Offset Adjustment (page 39)
3. Focus Bias Adjustment (page 40)
4. Tracking Balance Adjustment (page 41)
5. Optical Pick-up Block Position Adjustment (page 34)

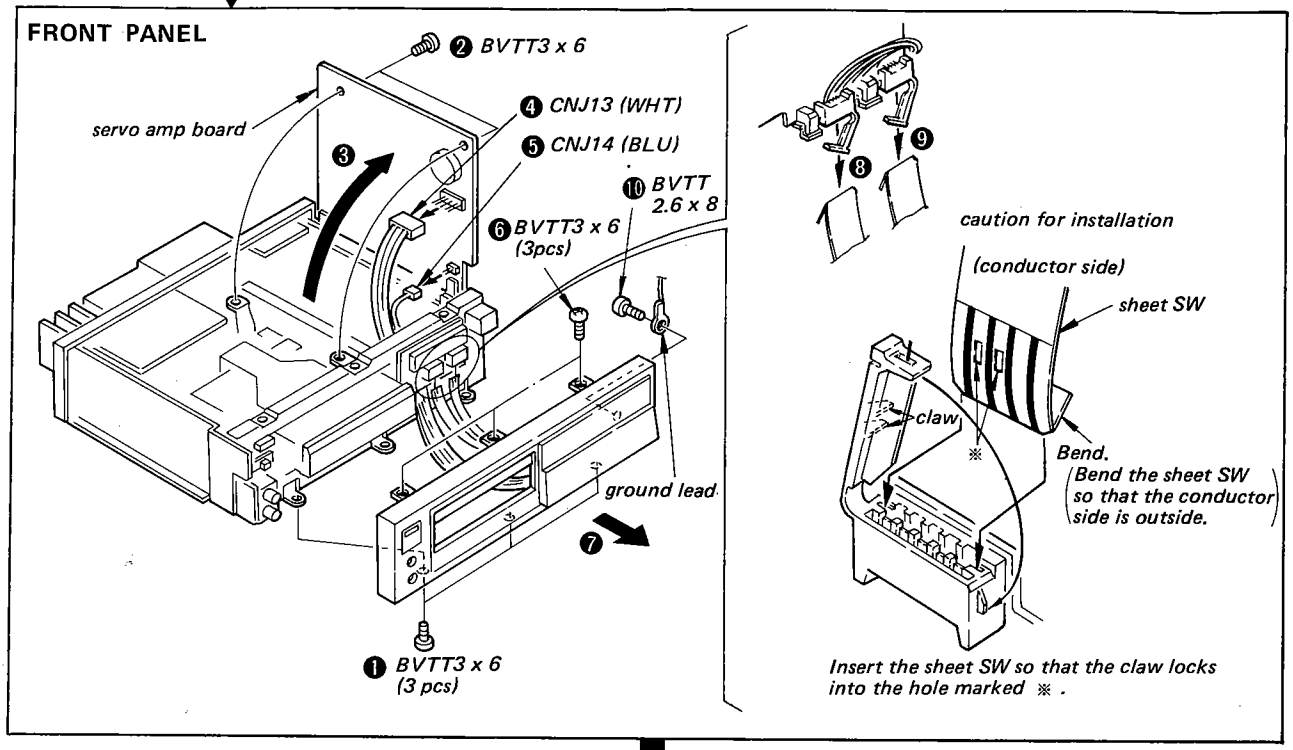
After performing the above, confirm focus/tracking gain.

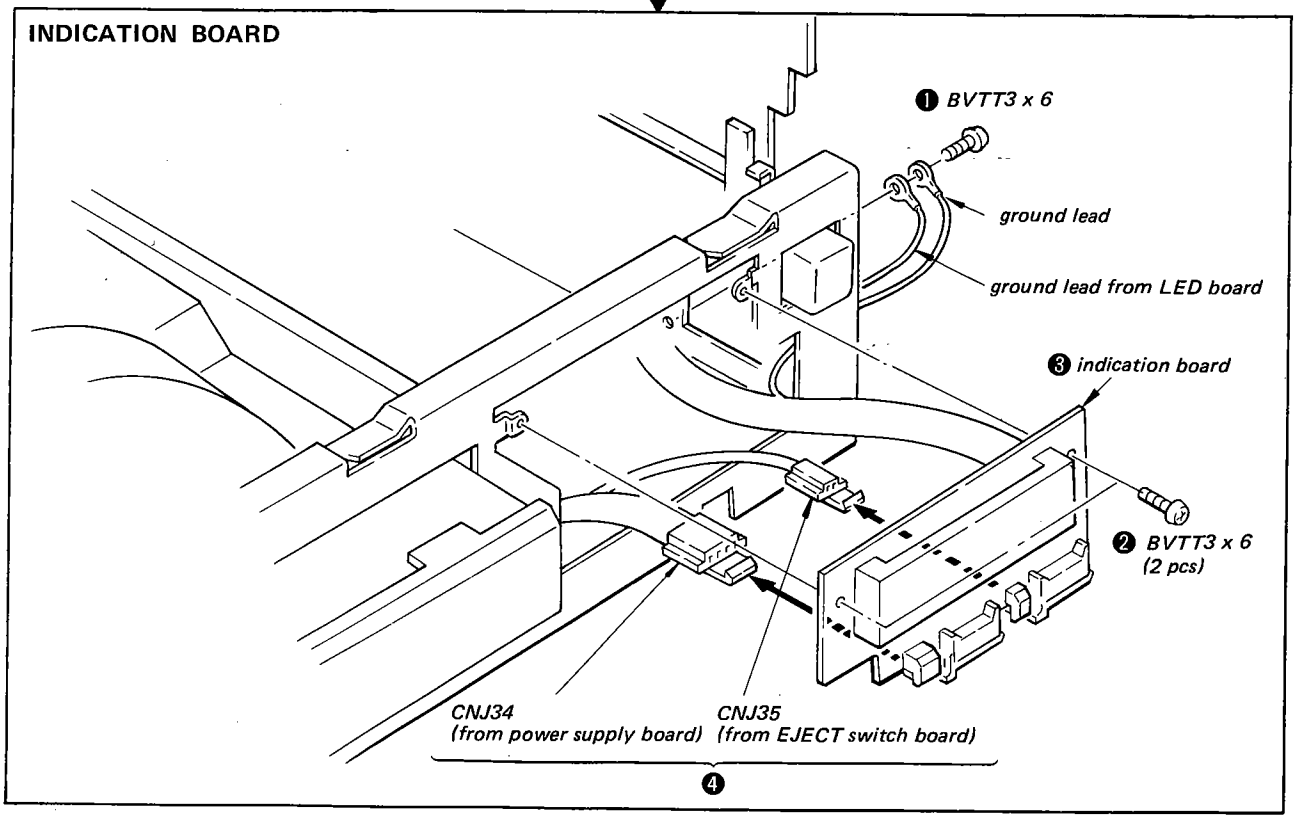
— Checking Focus/Tracking Gain —

Play a disc (YEDS-1) and check the following items.

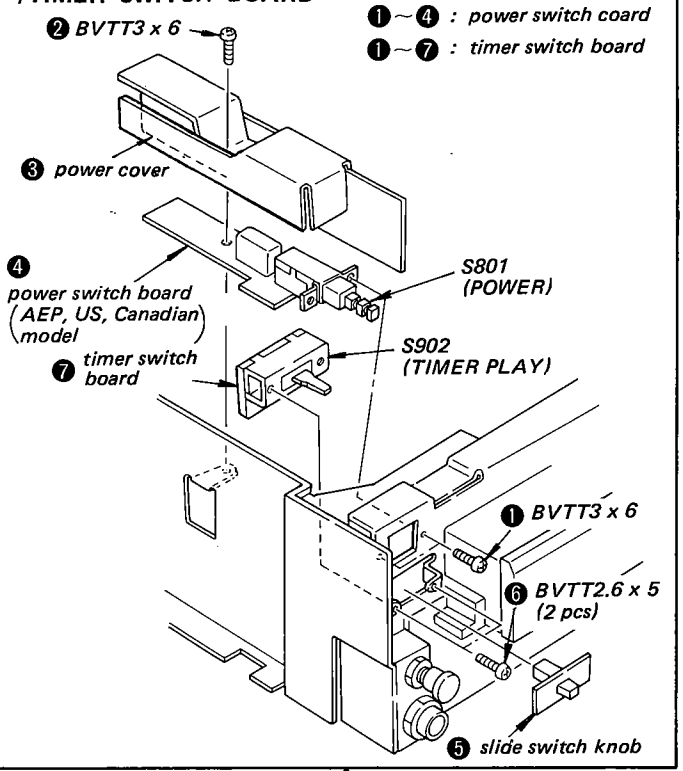
1. No skipping in the sound.
2. Mechanical noise when the 2-axis device operates should be minimum.
3. The beginning of the desired selection is reached when the (⏮ , ⏭) buttons are pressed. The time for reaching the beginning of a selection should be about 2 seconds.
4. Turn the anti-shock switch off, and apply light shocks to the sides and top of the set. At this time the display should change correctly and no skipping should occur. Then when a stronger shock is applied, the display may jump and sound may skip, but operation should subsequently be normal.

Remove the case. (See page 25.)

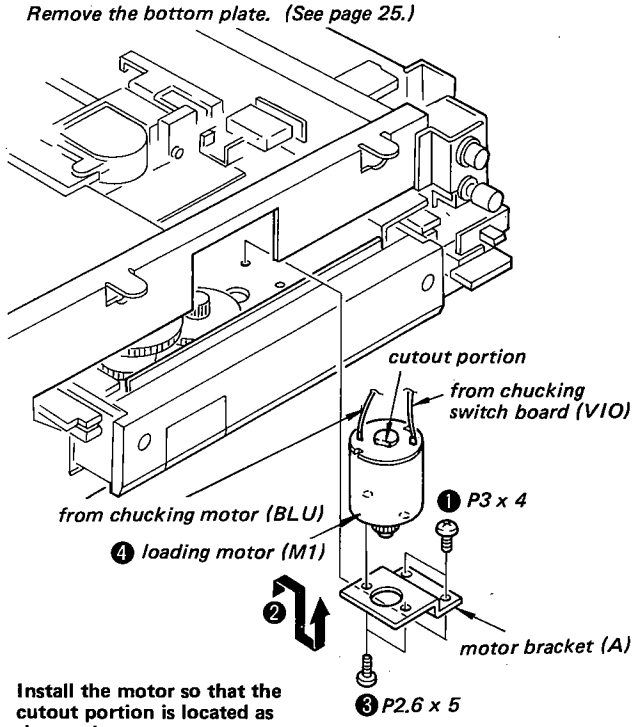




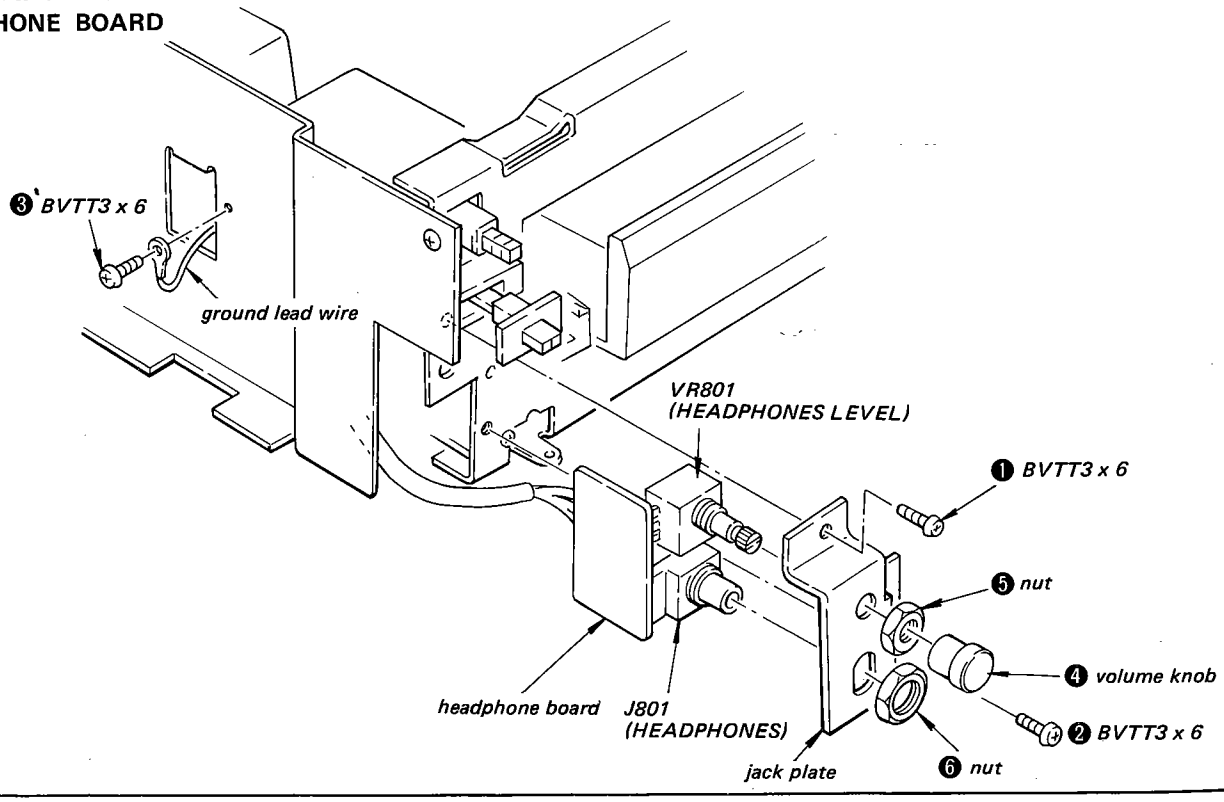
POWER SWITCH BOARD (AEP, US, Canadian Model) /TIMER SWITCH BOARD


❶~❹ : power switch coard
❶~❼ : timer switch board
❷ BVTT3 x 6
❸ power cover
❹ power switch board (AEP, US, Canadian model)
❼ timer switch board
S801 (POWER)
S902 (TIMER PLAY)
❶ BVTT3 x 6
❻ BVTT2.6 x 5 (2 pcs)
❺ slide switch knob

LOADING MOTOR


Remove the bottom plate. (See page 25.)
cutout portion
from chucking switch board (VIO)
from chucking motor (BLU)
❶ P3 x 4
❹ loading motor (M1)
motor bracket (A)
❸ P2.6 x 5
Install the motor so that the cutout portion is located as shown above.

HEADPHONE BOARD

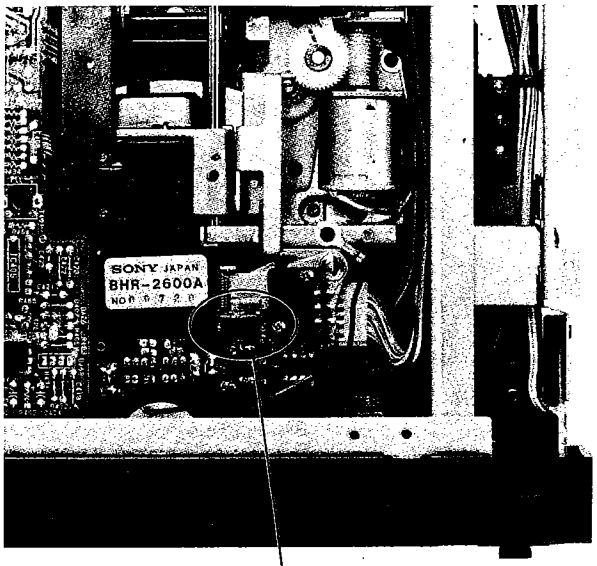


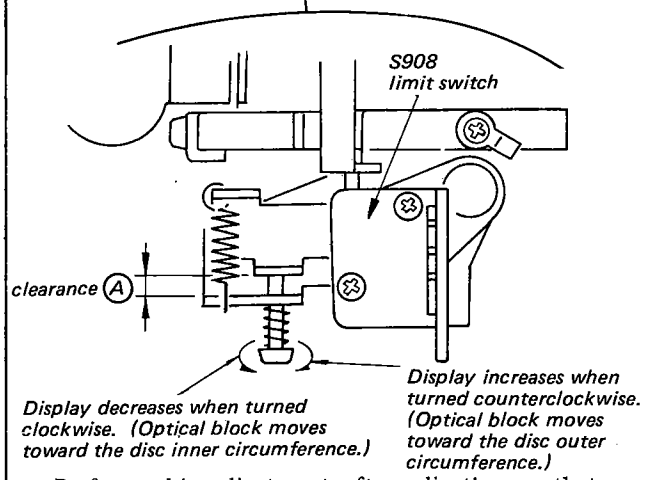
SECTION 3
ADJUSTMENTS

3-1. MECHANISM ADJUSTMENTS

Optical Pick-up Position Adjustment

This adjustment determines the position when the optical block is at its innermost position on the disc. It is done so that the optical block can read the information recorded in the TOC (Table of Contents) on the disc lead-in track.




S908
limit switch
clearance (A)
Display decreases when turned clockwise. (Optical block moves toward the disc inner circumference.)
Display increases when turned counterclockwise. (Optical block moves toward the disc outer circumference.)

Perform this adjustment after adjusting so that clearance (A) is approximately 2.6 mm when the adjustment screw is removed.

1. Turn POWER switch on and insert disc (YEDS-1).
2. Press ▷PLAY button and adjust the adjustment screw so that the display window reading is as shown in Figure A.
   The timer counter decreases approximately 10–20 seconds with one counterclockwise turn of the adjustment screw.
   When turning the adjustment screw, press the OPEN/CLOSE button to reset the microcomputers (IC101, 102, 103). After this, press ▷PLAY button, read display window and perform adjustment again.
3. Press OPEN/CLOSE button, and after the LED on the OPEN/CLOSE button lights up, press ▷PLAY button.
   Confirm that the display window reading is as shown in Figure A.
   This can also be confirmed by displaying the remaining time by pressing LAP/REMAINING TIME button.
4. Repeat step 3 about ten times. If there is even one variation from the figure, repeat steps 2-3.
5. Press ▷PLAY button to obtain PLAY mode. Press Auto Selection (▶▶|) button and Manual Search (▶▶▶) button so that the outermost circumference is played. Next press RESET button.
6. Confirm that play begins when ▷PLAY button is pressed. If it does not, the optical block and OP base are touching, so push the optical block motor worm gear by hand in the direction of the arrow, as shown in Figure B, and rotate it 1-2 times.
   Turn the adjustment screw clockwise one rotation, and repeat steps 2-6.

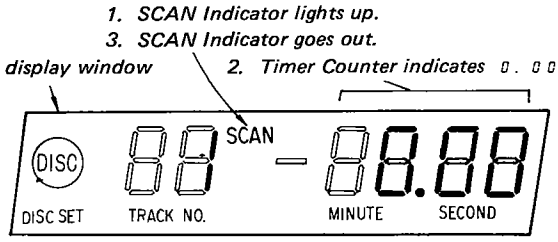


Fig. A

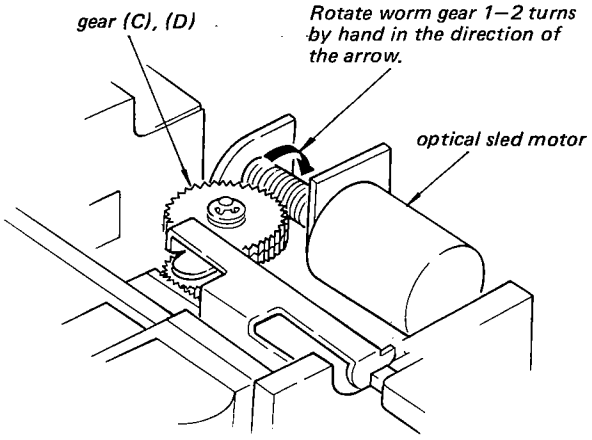
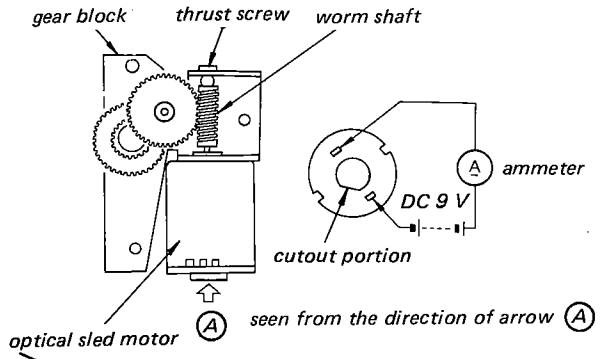
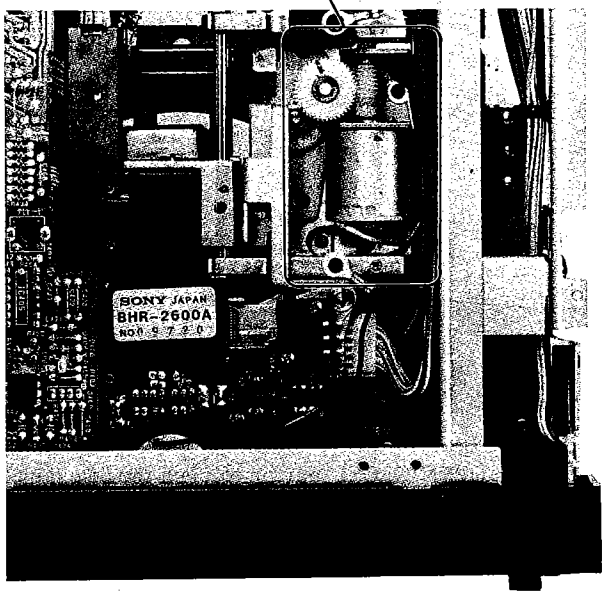


Fig. B

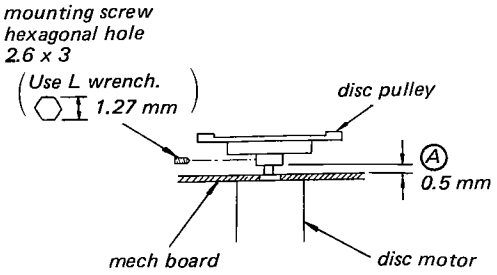
Optical Sled Motor Thrust Adjustment





1. Remove gear block. (see page 25)
2. Turn thrust screw counterclockwise to loosen.
3. Connect as shown above and remember the ammeter reading.
4. Next, turn the thrust screw clockwise slowly and adjust so that the ammeter reading is +1 mA from the reading in step 2.
   Motor drive current must be less than 25 mA.
   Reference value: 17–20 mA.
5. Confirm that there is no worm shaft thrust play.
6. After adjustment, lock the screw.
7. Install the gear block. (see page 25)

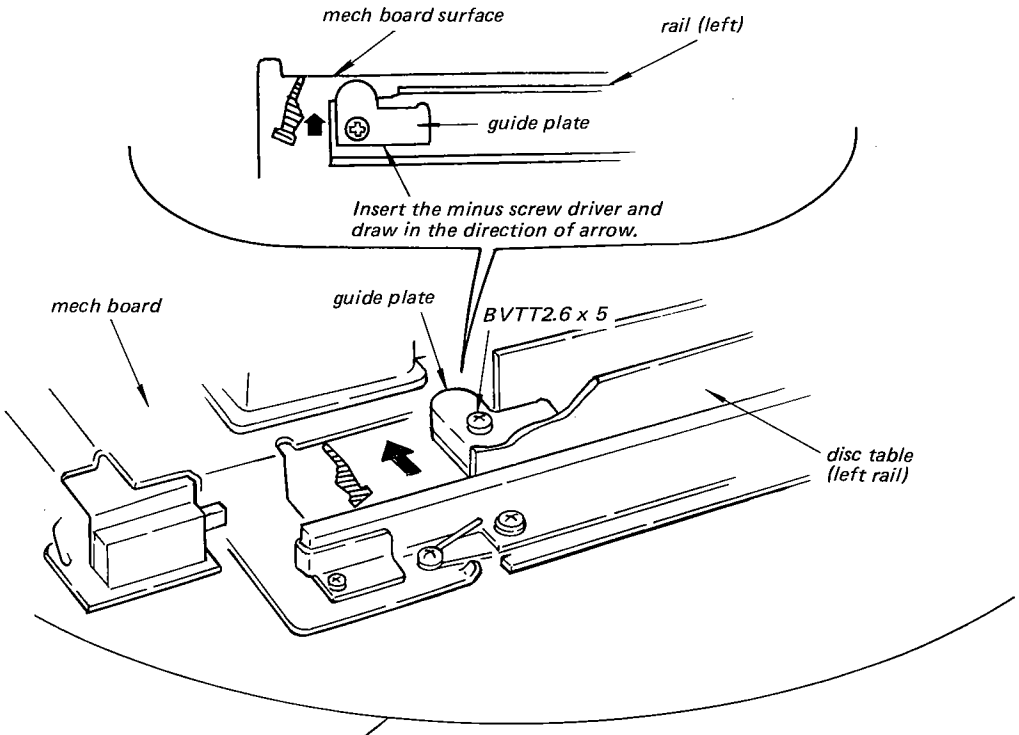
Disc Pulley Height Adjustent

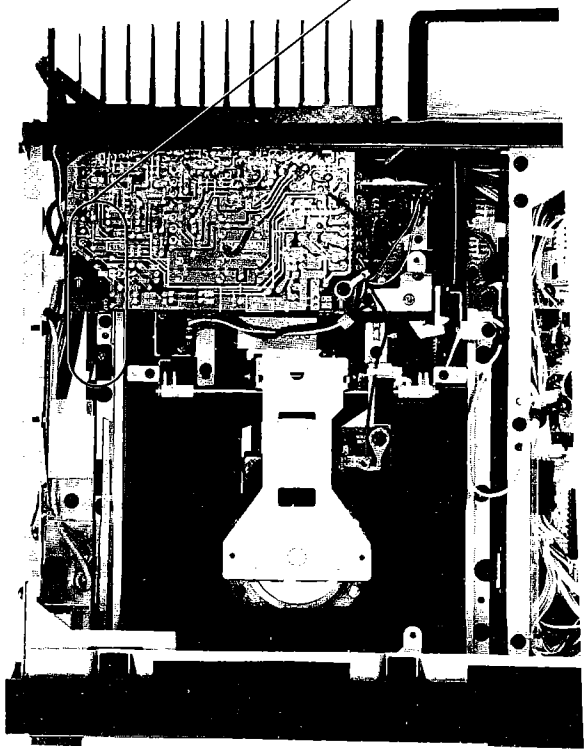


Install the disc pulley so that clearance (A) is 0.5 mm.

Guide Plate Adjustment

This adjustment is to suppress lateral play when the disc table opens.

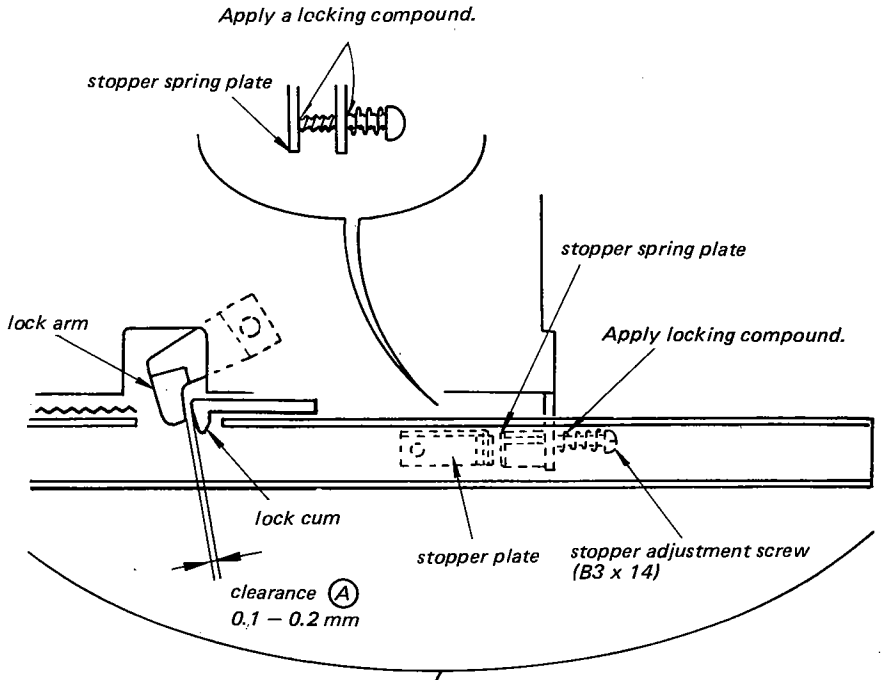


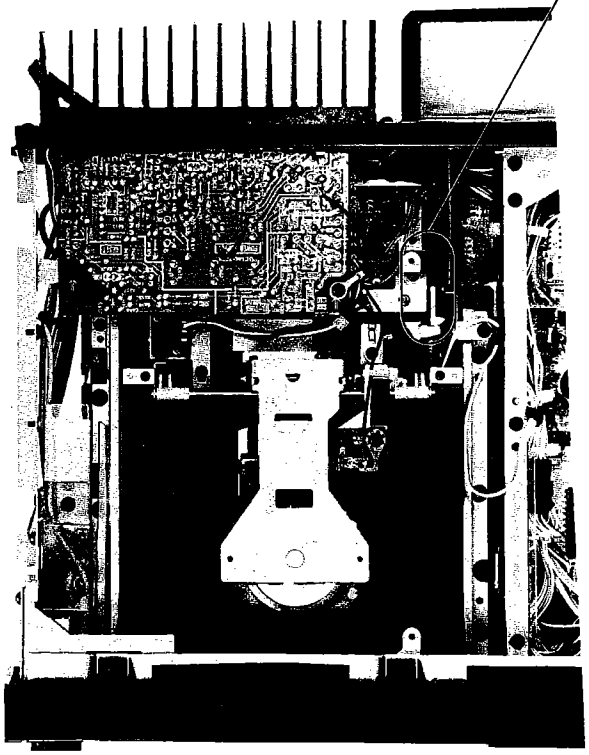


1. Press OPEN/CLOSE button to open the disc table.
2. Loosen the screw (BVTT2.6 x 5).
3. Insert a blade screwdriver into the space between the left rail and guide plate, push in the direction of the arrow so that it touches the mech board surface lightly, and tighten the screw.
4. Open and close the disc table 2-3 times, and confirm that the guide plate does not rub the mech board surface (section).

Disc Table Stopper Adjustment

This adjustment is to prevent the disc table from coming forward due to loading gear backrush when the disc table is closed and chucking completed.





Adjust with the stopper adjustment screw so that clearance (A) is 0.1–0.2 mm when the disc table is closed.

After adjustment, lock the stopper spring plate and stopper adjustment screw. (Do not get lock on the stopper plate.)

3-2. ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-1 disc unless otherwise indicated.

Adjustment Mode

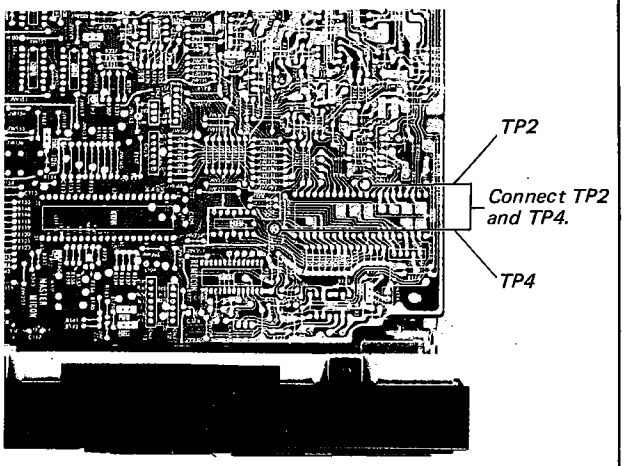
1. Connect servo amp board test points TP2 and TP4.

   (This is to prevent the disc table from opening even though pits are not read, by making microcomputer IC101 pin (33) low.)

2. Turn POWER switch on.
   (To reset microcomputer.)

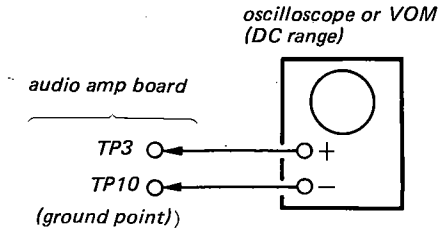
After adjustment, remove the lead wire connecting test points TP2 and TP4.

servo amp board (conductor side)



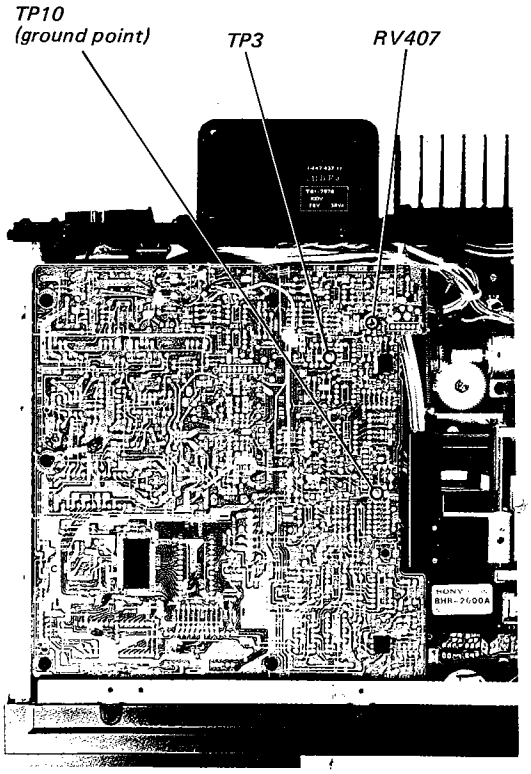
RF Offset Adjustment

Procedure:



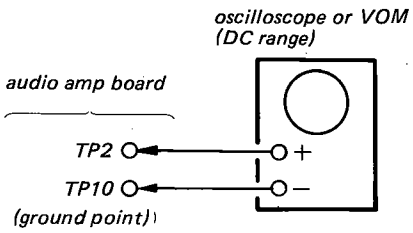
1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test point TP3 and TP10 (ground point).
3. Adjust RV407 so that oscilloscope or VOM reading is DC 1.35 ± 0.1 V.

Adjustment Location: Audio amp board



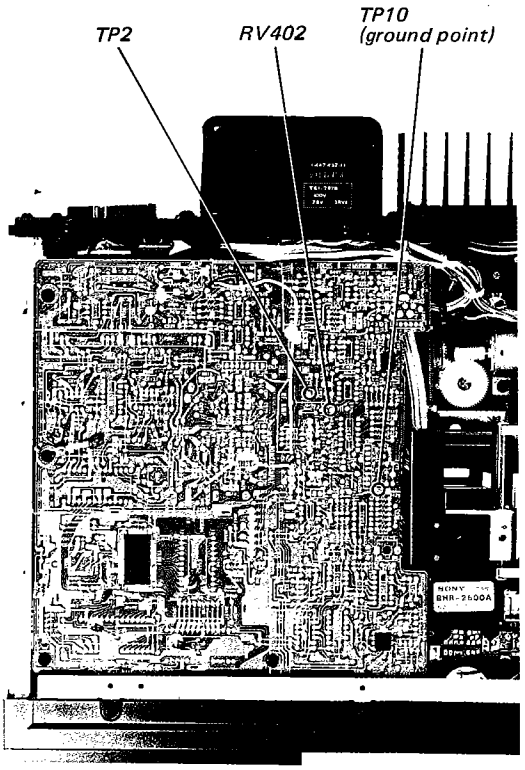
Tracking Offset Adjustment

Procedure:



1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test point TP2 and TP10 (ground point).
3. Adjust RV402 so that oscilloscope or VOM reading is DC 0 ± 0.1 V.

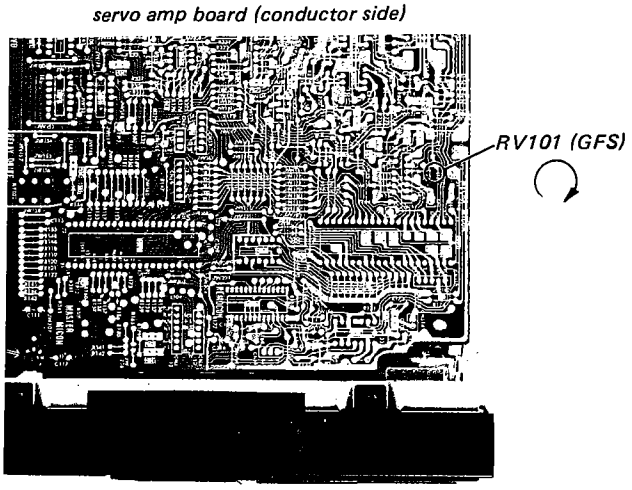
Adjustment Location: Audio amp board

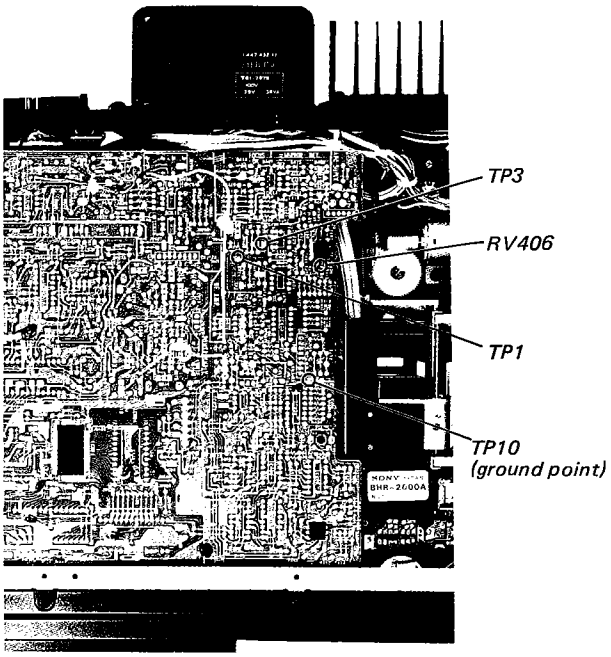


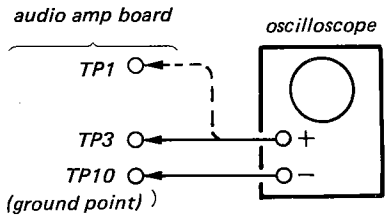
Focus Bias Adjustment

Adjustment Location: Audio amp board

Procedure:

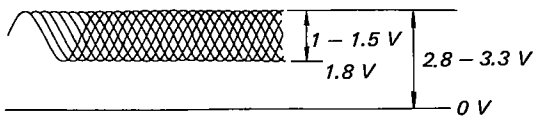






1. Put set in adjustment mode. (see page 38)
2. Turn RV101 (GFS) fully in the direction of the arrow. (see above)
3. Connect oscilloscope to audio amp board test point TP1 and TP10 (ground point).
4. Adjust tentatively so that oscilloscope reading is DC 0 V.
5. Insert disc (YEDS-1) and press ▷PLAY button.
6. Connect oscilloscope to audio amp board test point TP3 and TP10 (ground point).
7. Adjust RV406 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform



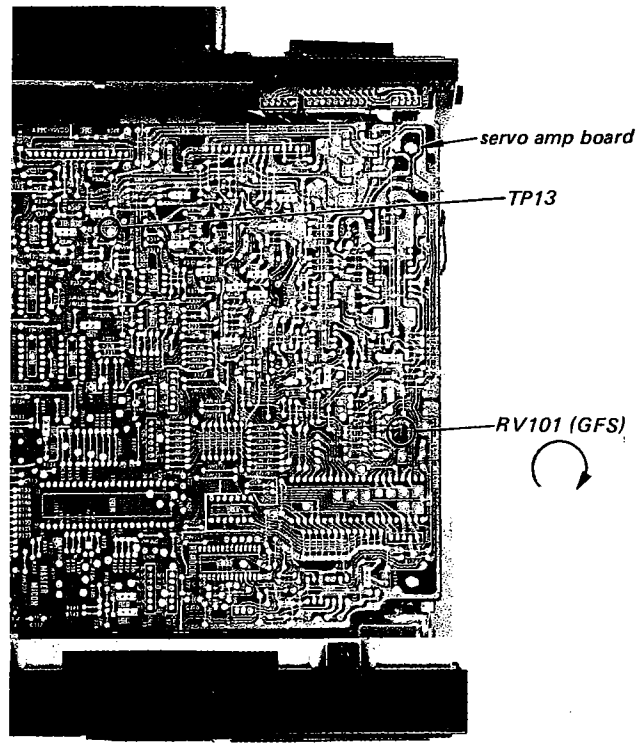
When observing the eye pattern, set the oscilloscope for AC range and raise the vertical sensitivity.

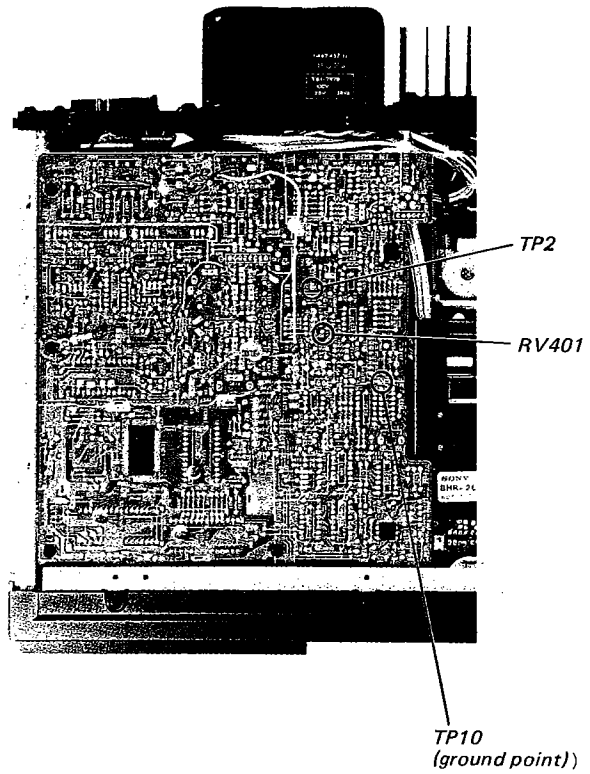
8. After adjustment, return RV101 to the original setting.

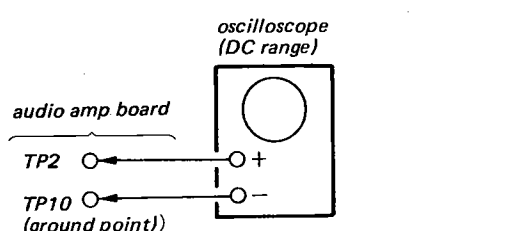
Tracking Balance Adjustment

Procedure:

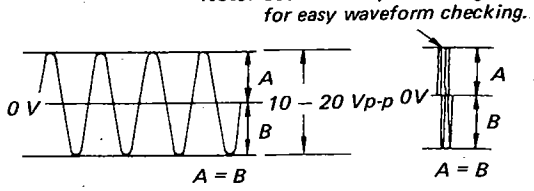
Adjustment Location; Audio amp board







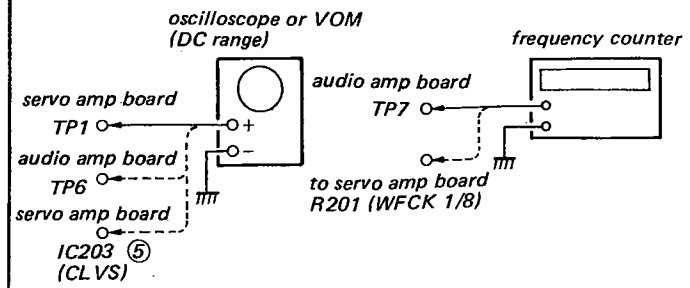
Note: *Set the sweep time longer for easy waveform checking.*



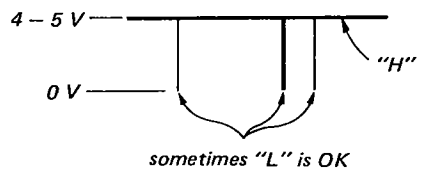
1. Put set in adjustment mode. (see page 38)
2. Ground servo amp board test point TP13.
3. Turn RV101 (GFS) fully in the direction of the arrow. (see above.)
4. Insert disc (YEDS-1) and press ▷PLAY button.
5. Connect oscilloscope to audio amp board test point TP2, TP10 (ground point).
6. Adjust RV401 so that the oscilloscope waveform is symmetrical above and below, relative to 0 V.
7. After adjustment, remove the lead wire which grounded audio amp board test point TP13. Return RV101 to the original setting.

RF PLL Adjustment

Procedure:

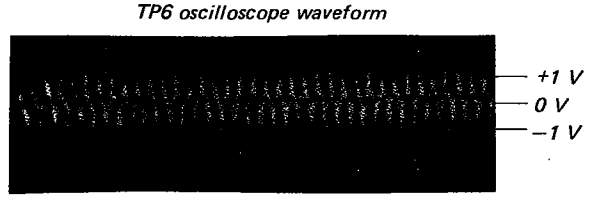


1. Put set into adjustment mode. (see page 38)
2. Turn RV101 (GFS) in the direction of the arrow. (Refer to adjustment location.)
3. Insert disc (YEDS-1) and press ▷PLAY button.
4. Connect oscilloscope to servo amp board test point TP1.
5. Confirm that the oscilloscope waveform is "H" as shown in the figure below.



- Confirm the following items when the waveform is as shown above. If it is not, perform the adjustments in steps 6-16.
  - A. Connect oscilloscope or tester to audio amp board test point TP6 and read the voltage value. Reading: DC 0 ± 1 V
  - B. Connect frequency counter to audio amp board test point TP7 and read frequency. Reading: 4.3218 MHz ± 400 kHz
6. Connect oscilloscope or VOM to servo amp board IC203 pin ⑤ (CLVS).
7. Adjust RV202 so that the reading is DC 2.7 V.
8. Connect oscilloscope or VOM to audio amp board test point TP6.
9. Adjust RV405 so that the reading is DC 0 ± 1 V.
10. Connect frequency counter to audio amp board test point TP7.

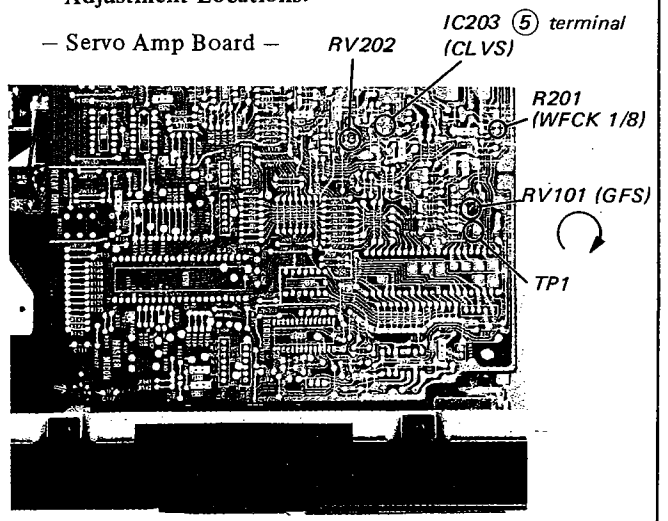
TP6 oscilloscope waveform



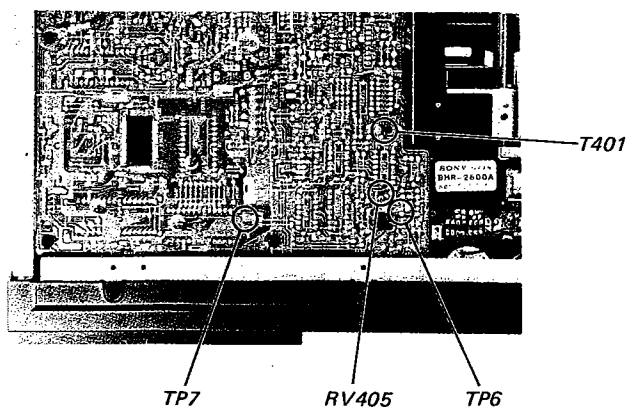
11. Adjust T401 so that frequency counter reading is 4.3218 MHz ± 400 kHz.
12. The adjustment of RV405 and T401 affect each other, so repeat steps 8 – 11 two or three times, finishing with step 11.
13. Connect frequency counter to servo amp board R201 (WFCK 1/8). Or, connect oscilloscope or VOM to servo amp board IC203 pin ⑤ (CLVS).
14. Adjust RV202 for the following specification:
    Frequency counter: 918 ± 10 Hz
    Oscilloscope of VOM: DC 3.05 ± 0.1 V
15. Connect oscilloscope to servo amp board test point TP1.
16. Confirm that the waveform is like the one shown in step 5.
    If it is not, repeat steps 6 – 16.
17. After adjustment, return RV101 to the original setting.

Adjustment Locations:

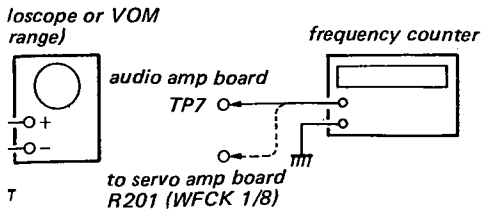
– Servo Amp Board –



– Audio Amp Board –



nent



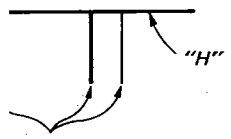
justment mode. (see page 38)

GFS) in the direction of the arrow.
itment location.)

DS-1) and press ▷PLAY button.

loscope to servo amp board test

he oscilloscope waveform is "H" as
gure below.



imes "L" is OK

llowing items when the waveform is
ve. If it is not, perform the adjust-
6-16.

scilloscope or tester to audio amp
oint TP6 and read the voltage value.
)C 0 ± 1 V

equency counter to audio amp board
'P7 and read frequency.
.3218 MHz ± 400 kHz

oscope or VOM to servo amp board
(CLVS).

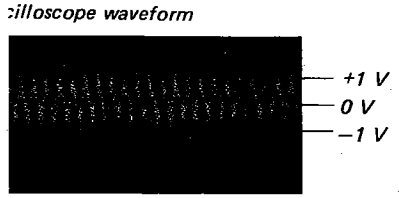
so that the reading is DC 2.7 V.

oscope or VOM to audio amp board

so that the reading is DC 0 ± 1 V.

ency counter to audio amp board

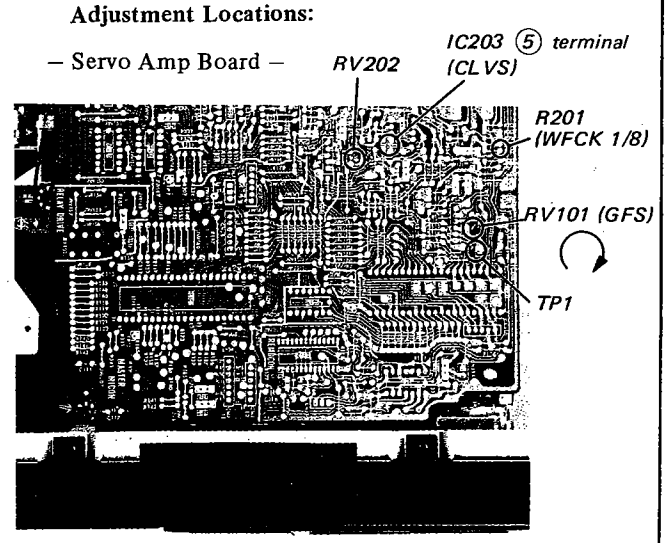
cilloscope waveform



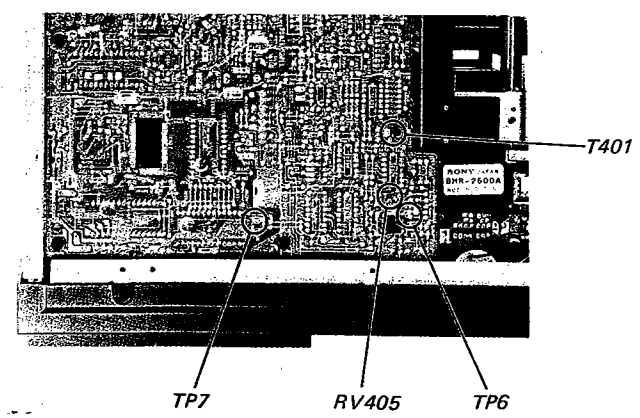
11. Adjust T401 so that frequency counter reading is 4.3218 MHz ± 400 kHz.
12. The adjustment of RV405 and T401 affect each other, so repeat steps 8 – 11 two or three times, finishing with step 11.
13. Connect frequency counter to servo amp board R201 (WFCK 1/8). Or, connect oscilloscope or VOM to servo amp board IC203 pin ⑤ (CLVS).
14. Adjust RV202 for the following specification:
    Frequency counter: 918 ± 10 Hz
    Oscilloscope of VOM: DC 3.05 ± 0.1 V
15. Connect oscilloscope to servo amp board test point TP1.
16. Confirm that the waveform is like the one shown in step 5.
    If it is not, repeat steps 6 – 16.
17. After adjustment, return RV101 to the original setting.

Adjustment Locations:

– Servo Amp Board –

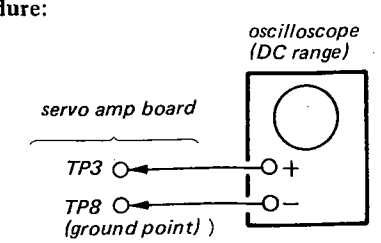


– Audio Amp Board –

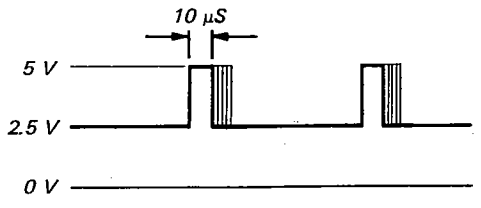


IC201 Phase Lock Adjustment

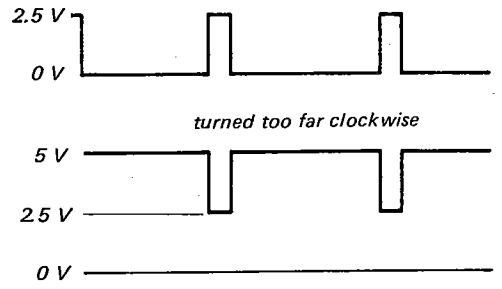
Procedure:



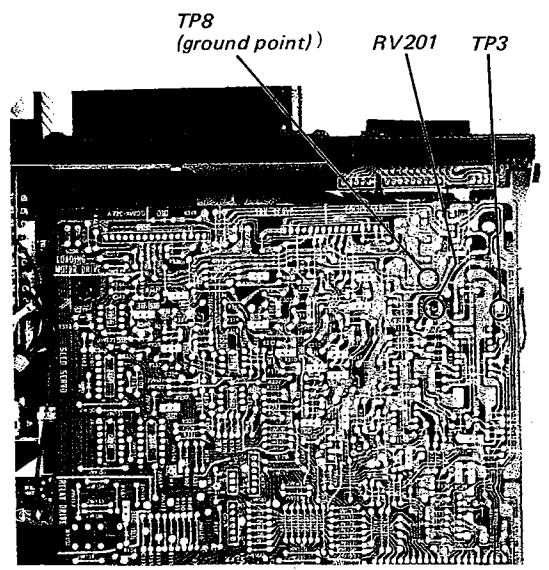
1. Put set in adjustment mode. (see page 38)
2. Insert disc (YEDS-1) and press ▷PLAY button.
3. Connect oscilloscope to servo amp board test point TP3 and TP8 (ground point).
4. Adjust RV201 so that the waveform is as shown in the figure below.



- **Incorrect Examples** *turned too far counterclockwise*

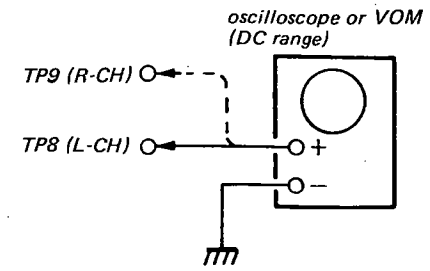


Adjustment Location: Servo amp board



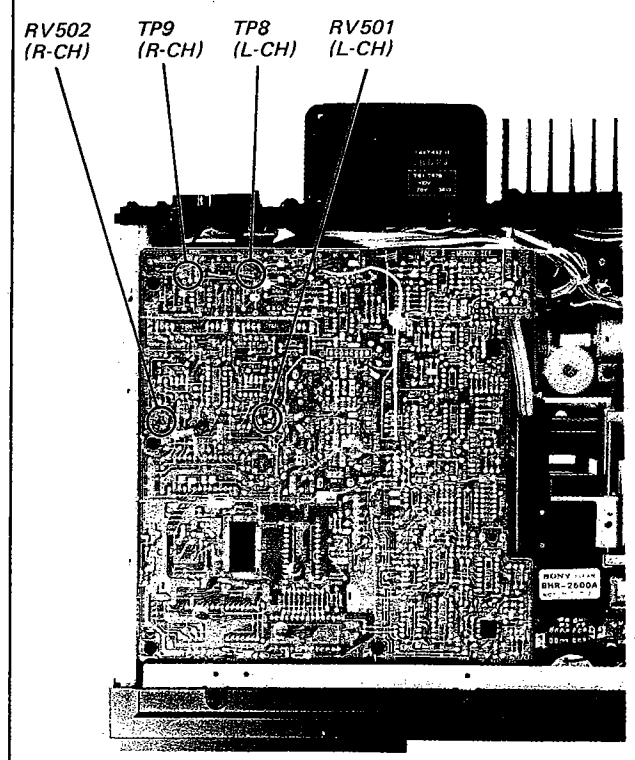
AF Offset Adjustment

Procedure:



1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test points TP8 (L-CH) and TP9 (R-CH).
3. Adjust RV501 (L-CH) and RV502 (R-CH) so that the oscilloscope or VOM reading is DC 0 V.

Adjustment Location: Audio amp board



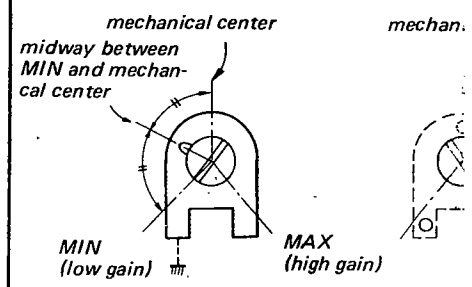
REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is
order to perform this adjustment exactly

However, this gain has a margin, so
slightly off, there is no problem. Ther
perform this adjustment.

Normally, RV205 and RV301 are
positions shown below.



Focus/tracking gain determines the pi
up (vertical and horizontal) relative t
noise and mechanical shock when the
operates.

However, as these reciprocate, the ad
the point where both are satisfied.

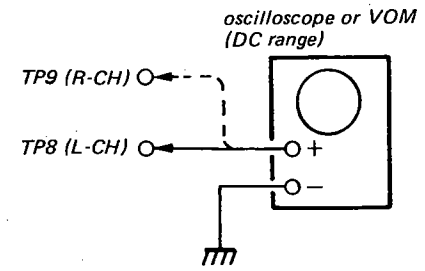
- When gain is raised, the noise whe
  device operates increases.
- When gain is lowered, it is more s
  mechanical shock and skipping occur

When gain adjustment is off, the sym
appear.

Symptoms \ Gain	Focus
• The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮,⏭ buttons pressed. (Normally takes about 2 seconds.)	low
• Music does not start and disc continues to rotate for STOP → ▷PLAY or automatic selection (⏮ ⏭ buttons pressed.)	–
• Disc table opens shortly after STOP → ▷PLAY.	low or high
• Susceptible to mechanical shock. Even with anti-shock switch on, display and sound skip when a light shock is given.	–
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–
• More noise during 2-axis device operation.	high

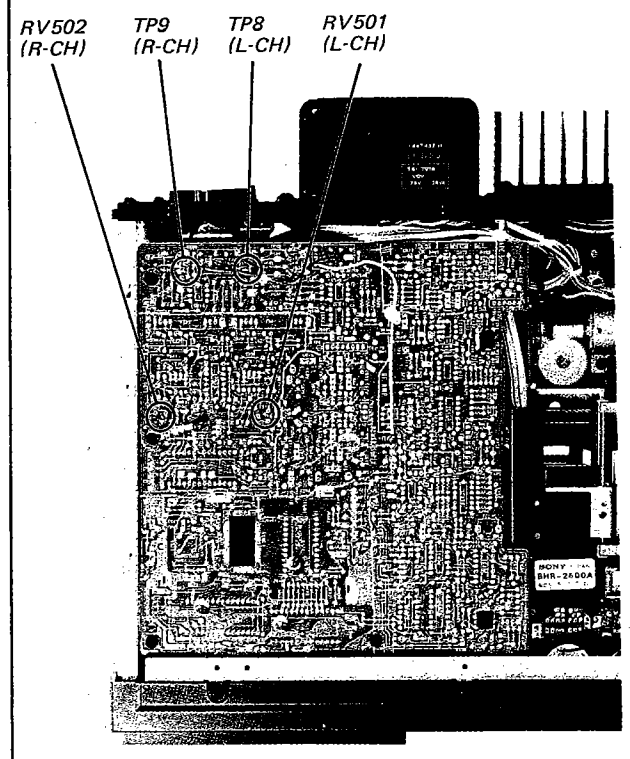
AF Offset Adjustment

Procedure:



1. Turn POWER switch on. (STOP mode)
2. Connect oscilloscope or VOM to audio amp board test points TP8 (L-CH) and TP9 (R-CH).
3. Adjust RV501 (L-CH) and RV502 (R-CH) so that the oscilloscope or VOM reading is DC 0 V.

Adjustment Location: Audio amp board



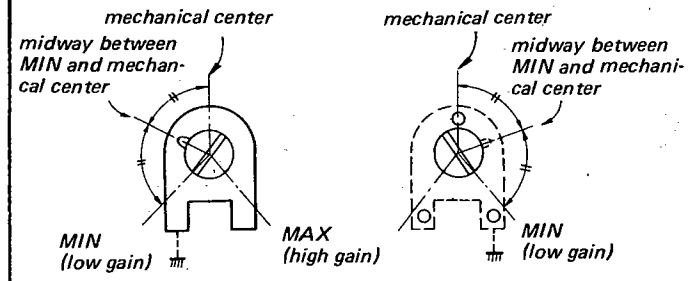
REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Normally, RV205 and RV301 are set in the positions shown below.



Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operates.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

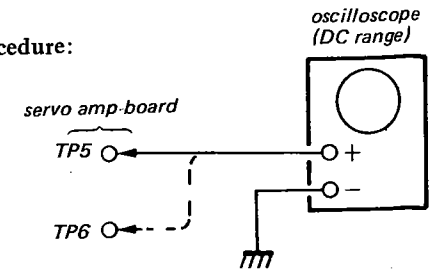
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮,⏭ buttons pressed. (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP → ▷PLAY or automatic selection (⏮ ⏭ buttons pressed.)	–	low
• Disc table opens shortly after STOP → ▷ PLAY.	low or high	—
• Susceptible to mechanical shock. Even with anti-shock switch on, display and sound skip when a light shock is given.	–	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

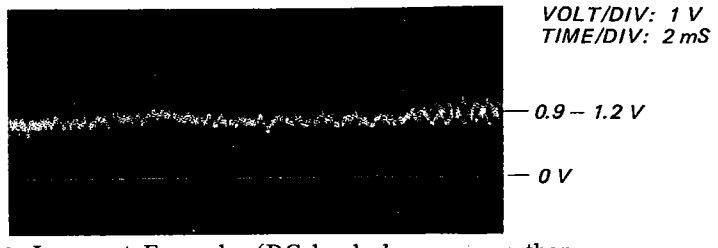
– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original positions.

Procedure:

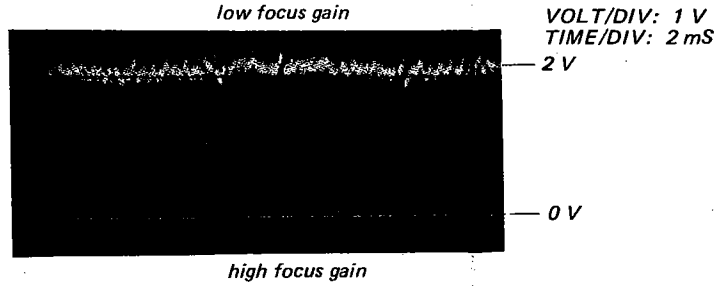


1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Put set in adjustment mode. (see page 38)
3. Insert disc (YEDS-1) and press ▷ PLAY button.
4. Connect oscilloscope to servo amp board TP5.
5. Adjust RV205 so that the waveform is as shown in the figure below. (focus gain adjustment)



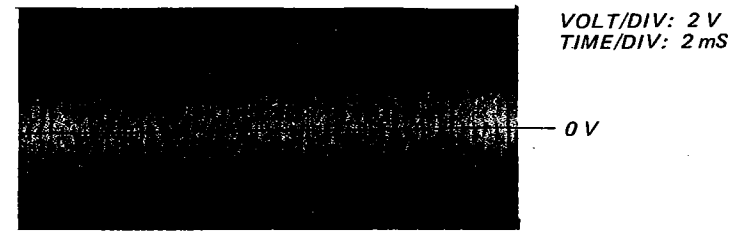
- Incorrect Examples (DC level changes more than on adjusted waveform)

low focus gain



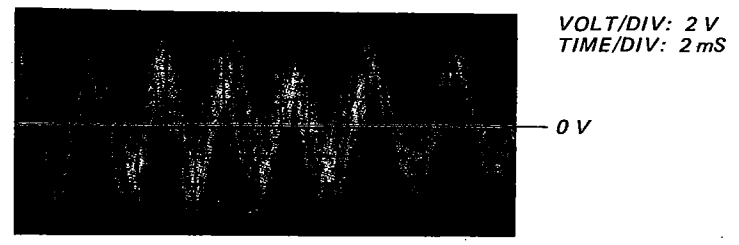
high focus gain

6. Connect oscilloscope to servo amp board TP6.
7. Adjust RV301 so that the waveform is as shown in the figure below. (tracking gain adjustment)

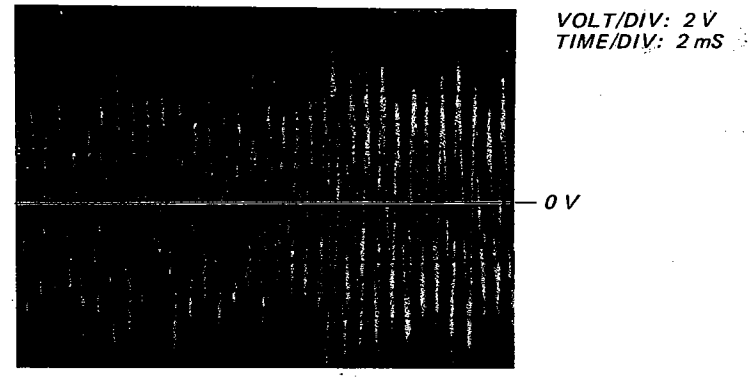


- Incorrect Examples (fundamental wave appears)

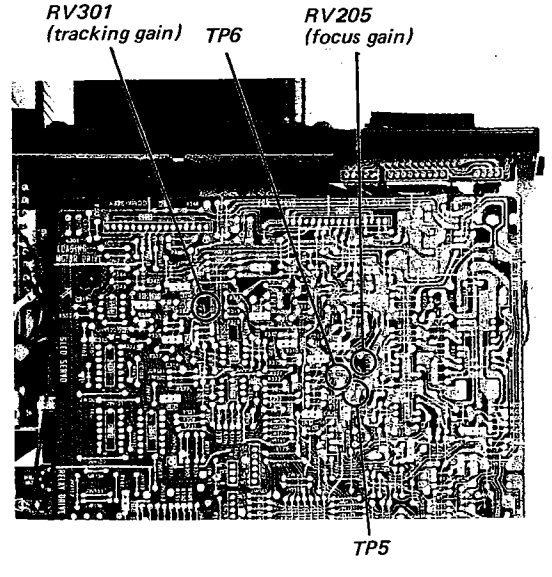
low tracking gain



high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location: Servo amp board



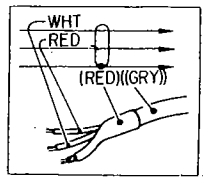
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM — *Servo Amp Section* —

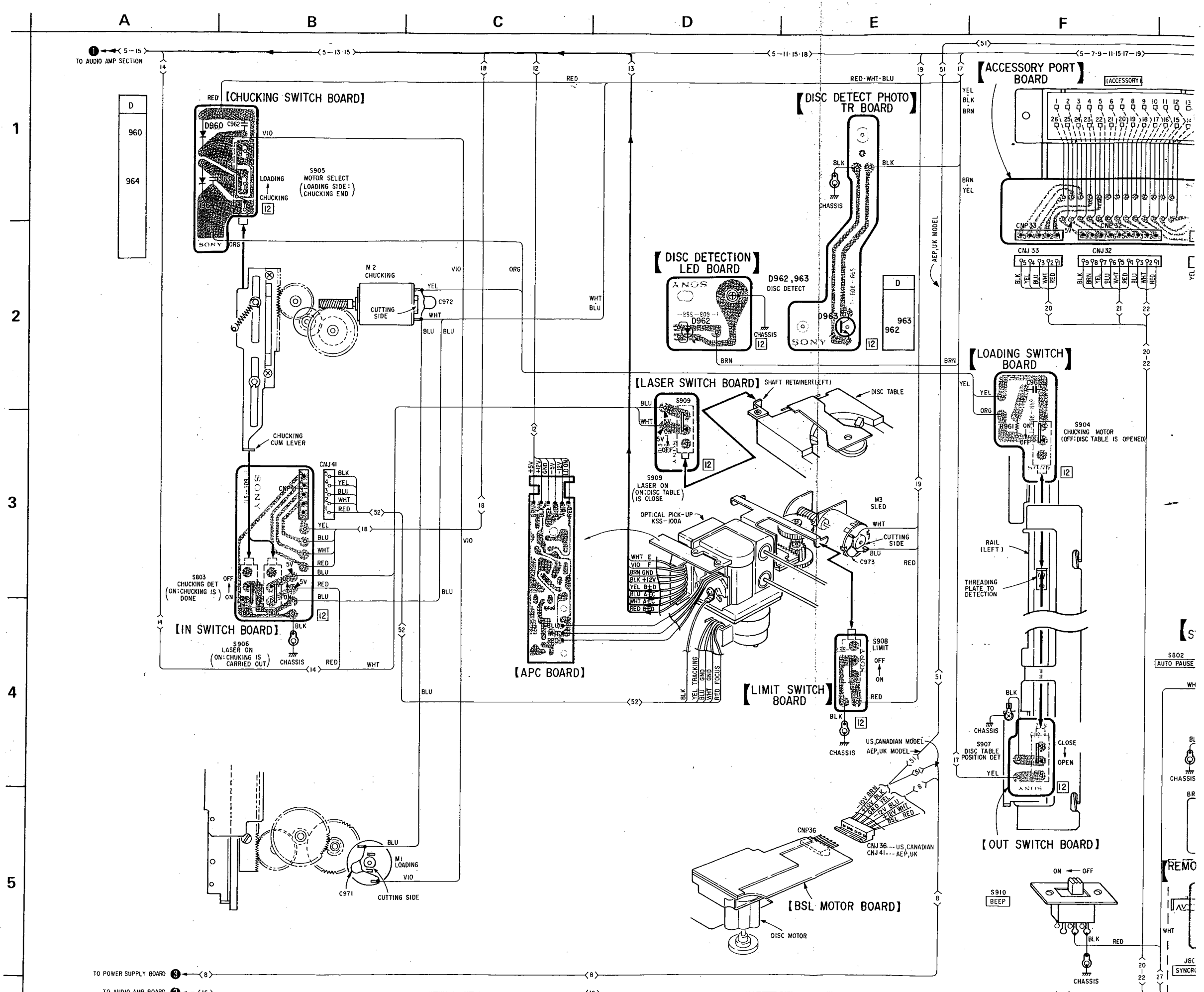
- **See page 66 for Semiconductor Lead Layouts**
- **See page 67 for IC Block Diagaams**

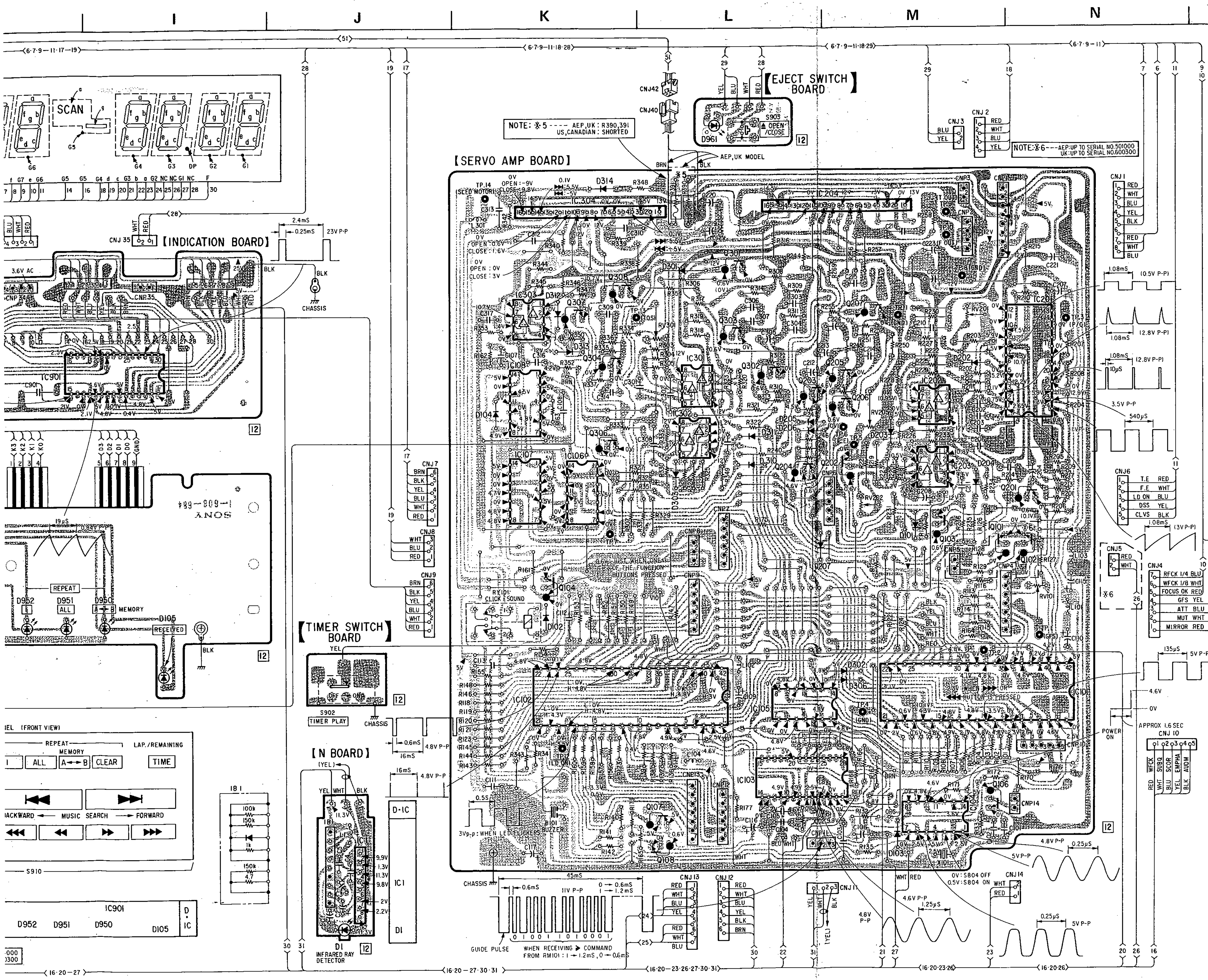
Note:

- Color code of sleeving over the end of the jacket.



- ▒ : B+ pattern
- ▒ : B- pattern
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  no mark: STOP mode
  ( ): PLAY mode
- Waveforms are taken with respect to ground with oscilloscope.
  no mark: STOP mode
  ( ): PLAY mode
- ※ 5: AEP and UK models are different from US and Canadian models.
- ※ 6: Only the following sets have synchronized remote control circuit.
  AEP model: up to Serial No. 501,000
  UK model: up to Serial No. 600,300




[SERVO AMP BOARD]
[EJECT SWITCH BOARD]
[INDICATION BOARD]
[TIMER SWITCH BOARD]
[N BOARD]
NOTE: ※5 ---- AEP, UK : R390, 391
US, CANADIAN : SHORTED
NOTE: ※6 --- AEP: UP TO SERIAL NO.501000
UK: UP TO SERIAL NO.600300
AEP, UK MODEL
SCAN
REPEAT
ALL
MEMORY
RECEIVED
S902 TIMER PLAY
S903 OPEN/CLOSE
D1 INFRARED RAY DETECTOR
GUIDE PULSE
WHEN RECEIVING ▶ COMMAND
FROM RM101 : 1 → 1.2mS, 0 → 0.6mS
3Vp-p : WHEN LED FLICKERS
RY101 CLICK SOUND
0.6V JUST WHEN ONE OF THE FUNCTION BUTTONS PRESSED
BUTTON IS PRESSED
POWER ON
APPROX 1.6 SEC
CNJ 10
0V : S804 OFF
0.5V : S804 ON
(SLED MOTOR)
PANEL (FRONT VIEW)
LAP./REMAINING
CLEAR
TIME
BACKWARD ← MUSIC SEARCH → FORWARD
S910
IC901
D952 D951 D950 D105
D·IC
I
J
K
L
M
N
O
1
2
3
4
5

Q·IC	D
	961
	314
IC204 IC304	
301	301
308	
207 307 IC303 303	312
	313
304 IC201 302 205 203 IC108 IC301 IC202	202
206 IC302 306	104 205 206 203 311
204 202 IC203 IC107 IC106 201	310 204 303
103	
101 102	101 207
104	
	102
IC102 IC105 IC101	302 306
IC103	
106	
107 IC104	103
108	
Q·IC	D

4-2. SCHEMATIC DIAGRAM — *Servo Amp Section* —

Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- Switch: See page 56.
- ➡ : signal path
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  no mark: STOP mode
  ( ): PLAY mode
- Waveforms are taken with respect to ground with oscilloscope.
  no mark: STOP mode
  ( ): PLAY mode
- ※ 5: AEP and UK models are different from US and Canadian models.
- ※ 6: Only the following sets have synchronized remote control circuit.
  AEP model: up to Serial No. 501,000
  UK model: up to Serial No. 600,300

Note: Voltages are measured with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

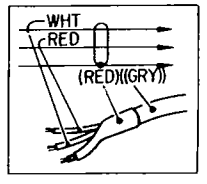
4-3. MOUNTING DIAGRAM — *Audio Amp Section* —

● See page 66 for Semiconductor Lead Layouts

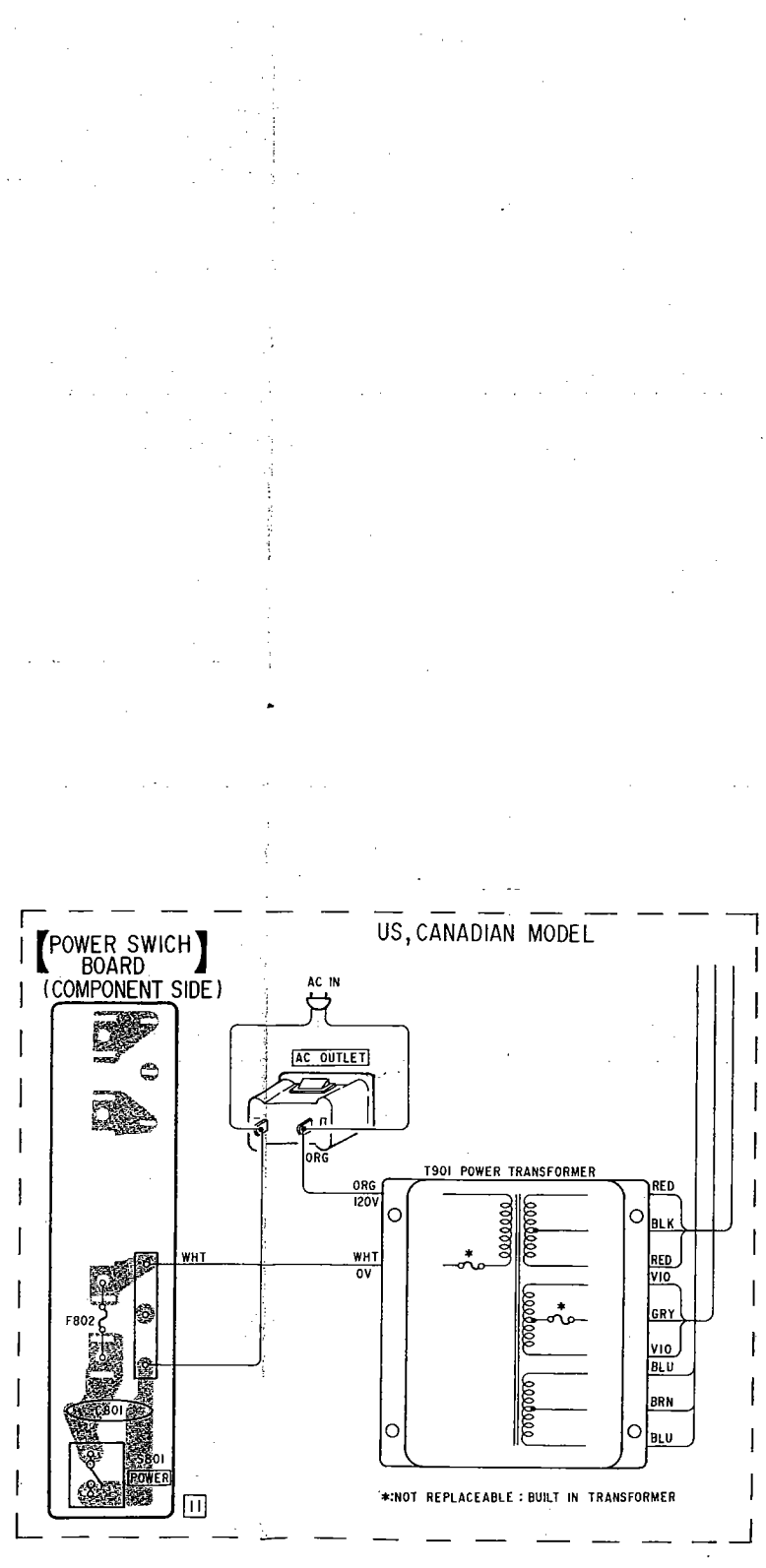
Ref No.	Switch	Position
S801	POWER	OFF
S802	AUTO PAUSE	OFF
S803	CHUCKING DETECT	ON
S804	ANTI SHOCK	OFF
S901	▷ PLAY	OFF
	▯▯ PAUSE	OFF
	⏮ } MUSIC SEARCH	OFF
	⏭ } MUSIC SEARCH	OFF
	◀◀	OFF
	◀◀◀	OFF
	▶▶	OFF
	▶▶▶	OFF
	RESET	OFF
	1 } REPEAT	OFF
	ALL } REPEAT	OFF
	A ↔ B } REPEAT	OFF
	CLEAR } REPEAT	OFF
	TIME } REPEAT	OFF
S902	TIMER PLAY	OFF
S903	OPEN/CLOSE	OFF
S904	CHUCKING MOTOR	ON
S905	MOTOR SELECT	CHUCKING
S906	LASER ON (CHUCKING SIDE)	ON
S907	DISC TABLE POSITION DETECT	CLOSE
S908	LIMIT	ON
S909	LASER ON (LOADING SIDE)	ON
S910	REMOTE CONTROL RECEPTING SOUND(BEEP)	OFF

Note:

- Color code of sleeving over the end of the jacket.



- ▒▒ : B+ pattern
- ▓▓ : B- pattern
- ▬▶▬ : signal path
- ▬▬▶ : L-CH signal path
- ▬·▬▶ : R-CH signal path
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  no mark: STOP mode
  ( ): PLAY mode
- Waveforms are taken with respect to ground with oscilloscope.
  no mark: STOP mode
  ( ): PLAY mode
- ※1 to 4: AEP and UK models are different from US and Canadian models.



D E F G H I J K L

【POWER SUPPLY BOARD】

NOTE: ※1--- AEP, UK : R621, 622, 623
US, CANADIAN: SHORTED
※2--- AEP, UK : R624
US, CANADIAN:

CNJ37 CNJ38

US, CANADIAN MODEL

RESET

POWER ON

APPROX 5SEC

Q・IC	608	607	601	604	Q・IC
	IC601 610	602 603	606 605 609		
D	619	603 617 618	604	602 608 607 601 610 612 611 609 615 616 614 613	D

【LINE OUT BOARD】

【AUDIO AMP BOARD】

CHASSIS

【HEADPHONE BOARD】

VR801 PHONE LEVEL

J801 HEAD PHONES

Q・IC	IC514 506 507	IC509 505	IC512 504	IC507 502	IC504	IC508 IC503	IC515 IC516 IC501	510	511 513 515 514 501	512 516	IC511 IC507 IC502	403 IC412 IC409	IC411 402
D	514 512			509							510	414 411 415 401	

US, CANADIAN MODEL

T901 POWER TRANSFORMER

*:NOT REPLACEABLE : BUILT IN TRANSFORMER

【FUSE BOARD】

UK MODEL

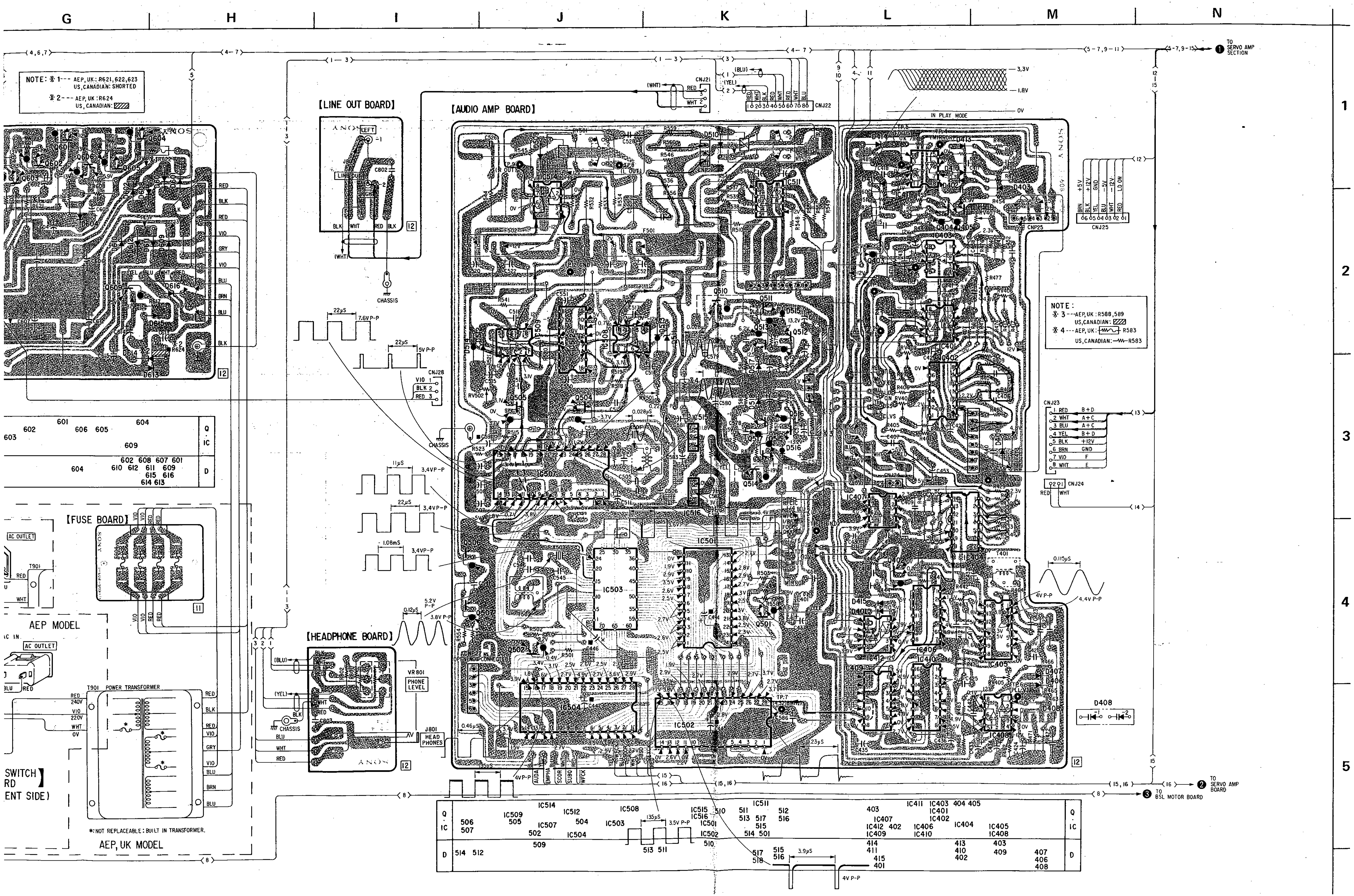
AEP MODEL

【POWER SWITCH BOARD】 (COMPONENT SIDE)

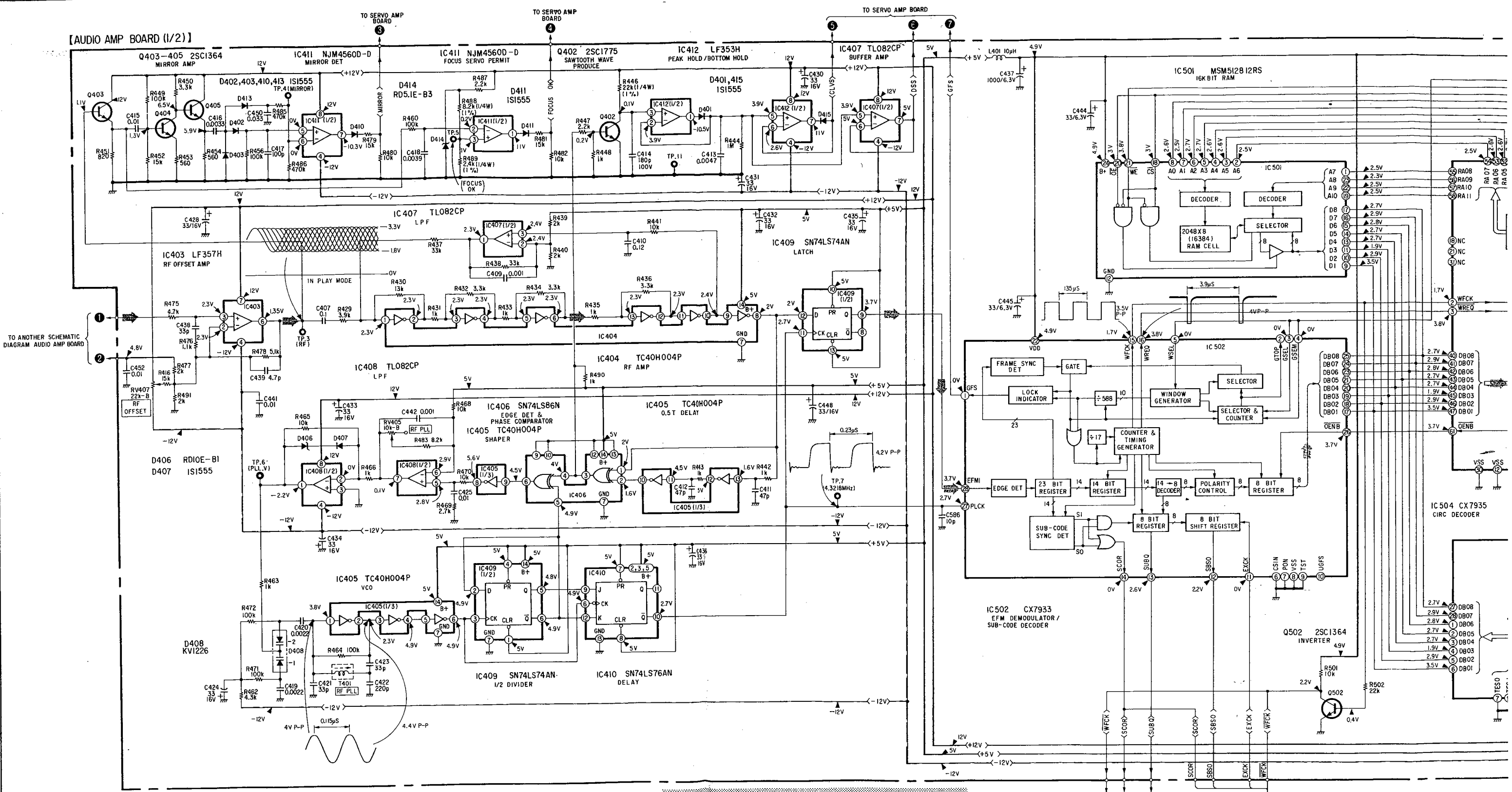
T901 POWER TRANSFORMER

*:NOT REPLACEABLE : BUILT IN TRANSFORMER.

AEP, UK MODEL



NOTE: ※1--- AEP,UK: R621,622,623 US,CANADIAN: SHORTED
※2--- AEP,UK: R624 US,CANADIAN:
[LINE OUT BOARD]
[AUDIO AMP BOARD]
[FUSE BOARD]
[HEADPHONE BOARD]
AEP MODEL
AEP,UK MODEL
T901 POWER TRANSFORMER
*: NOT REPLACEABLE: BUILT IN TRANSFORMER.
NOTE:
※3---AEP,UK: R588,589 US,CANADIAN:
※4---AEP,UK: R583 US,CANADIAN: R583
IN PLAY MODE
TO SERVO AMP SECTION
TO SERVO AMP BOARD
TO BSL MOTOR BOARD
CNJ25: BRN +5V, BLK +12V, YEL GND, BLU -5V, WHT -12V, RED LD ON
CNJ23: 1 RED B+D, 2 WHT A+C, 3 BLU A+C, 4 YEL B+D, 5 BLK +12V, 6 BRN GND, 7 VIO F, 8 WHT E



- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6 W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ——: B+ bus.
- – – –: B– bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- ➡ : signal path
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  no mark : STOP mode
  ( ) : PLAY mode
- Waveforms are taken with respect to ground with oscilloscope.
  no mark : STOP mode
  ( ) : PLAY mode
- Switch : See page 56.
- ※1 to 4 : AEP and UK models are different from US and Canadian models.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Voltages are measured with a VOM (50kΩ/V).

NOTE: ※1,2,3 --- AEP,UK: R588,589,621,622,623,624
US,CANADIAN: SHORTED

TO INDICATION BOARD

【POWER SUPPLY BOARD】

IC515 μPC78L05A
IC516 μPC79L05H
IC507 CX20017
IC508,509 LF353H
IC512 HD14053BP
IC514 NE5532P
IC511 NJM4560D-D

Q501,502 2SA1138
Q503 2SC2275
Q504,505 2SK152-3
Q506,507 2SC1364
Q508,509 2SA985
Q510,511,512 2SC2676
Q513,514 2SA1138
Q515,516,517,518 2SC2676
Q601,602,603 2SC1345
Q604 2SB731
Q605,606 2SA1175
Q607 2SD880
Q608 2SB731
Q609 2SD774
Q610 2SC1345

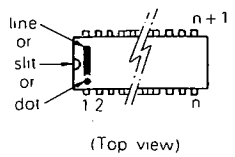
D501,502 HZ6B2L
D503,504 HZ6BL
D505,506,507,508 1SS133
D509,510 1S1555
D511,512 HZ6B2L
D513,514 10YDL3
D515,516 10YDL3
D517,518 EQA01-06P2
D601,602,607,608 1SS133
D603,604 HZ6BL
D609~612 30DF2
D613,614 10E2
D615 RD24E-B4
D616 RD5.1E-B1

【FUSE BOARD】 AEP,UK MODEL
【POWER SWITCH BOARD】
US,CANADIAN MODEL
AEP MODEL
UK MODEL
* : NOT REPLACEABLE: BUILT IN TRANSFORMER

【LINE OUT BOARD】
【HEADPHONE BOARD (1/3)】
【HEADPHONE BOARD (2/3)】
【HEADPHONE BOARD (3/3)】
HEADPHONE AMP
DE-EMPHASIS
INTEGRATOR/BUFFER AMP
SWITCHING
DISCHARGE
SERVO AMP
RELAY DRIVE
MUTING
EMPHASIS
PHONE LEVEL
LINE OUT
ANALOG SWITCH
CLOCK GENERATOR
CLOCK BUFFER
TTL-ECL INTERFACE
TIMING GENERATOR
256:1 CONSTANT CURRENT SOURCE
LOWER ORDER 8 BIT SHIFT REGISTER
HIGHER ORDER 8 BIT COUNTER, LATCHES, SHIFT REGISTER
D/A CONVERTER

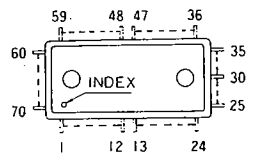
• Semiconductor Lead Layouts

CX7933
CX7935
CX20017
HD14053BP
LM6416E-123
M54940P
MSM5128-12RS
NE5532P
NJM4560D-D
SN74LS74AN
SN74LS76AN
SN74LS86N
TC4011BP
TC4030BP
TC4069UBP
TC40H004P
TL082CP
μPC4558C

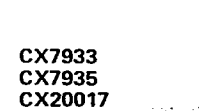


(Top view)

CX7934

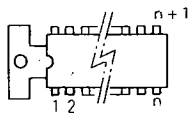


MB8841-1060K
MB8841-1061K



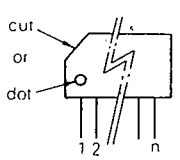
(Top view)

CX-193

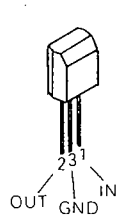


(Top view)

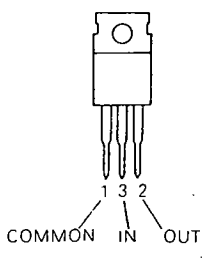
μPC1373H



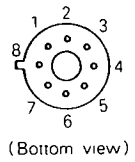
μPC78L05A



μPC7905H

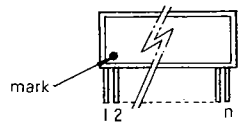


LF353H
LF357H



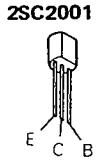
(Bottom view)

STK6922

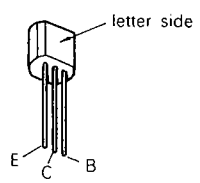


2SK152-3

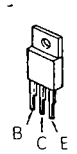
2SA1015
2SC1345
2SC1364
2SC1775
2SC1775A
2SC2001



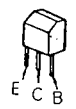
2SA1175



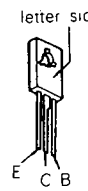
2SA985
2SA985A
2SC2275
2SC2275A
2SD880



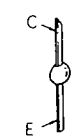
2SA1138
2SC2676
2SD774



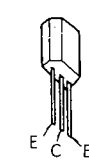
2SB731
2SD809



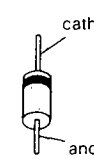
PH102



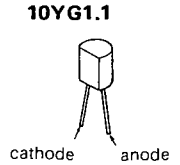
2SA1026-7



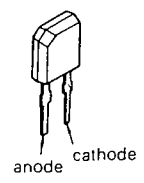
10E2
10YD1.3
1S1555
30DF1
30DF2
EQA01-06R
EQA01-06R2
HZ6B2L
RD10E-B1
RD2.7E
RD24E-B4
RD5.1E-B1
RD5.1E-B3



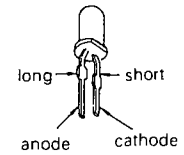
10YG1.1



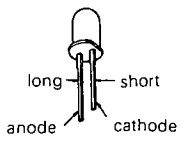
PH302B



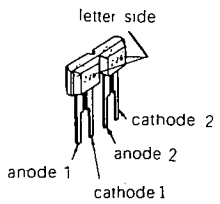
TLR123



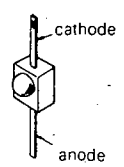
AA5535S



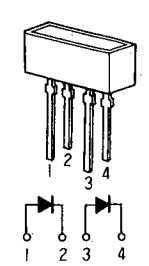
KV1226



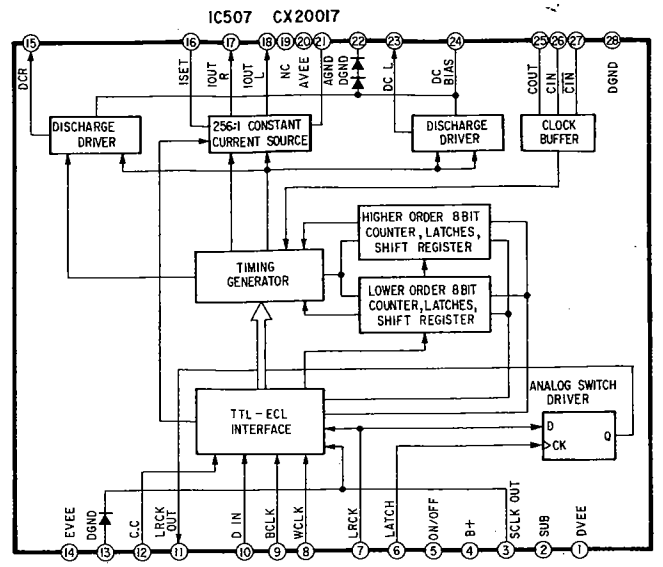
PG2222SY-B1



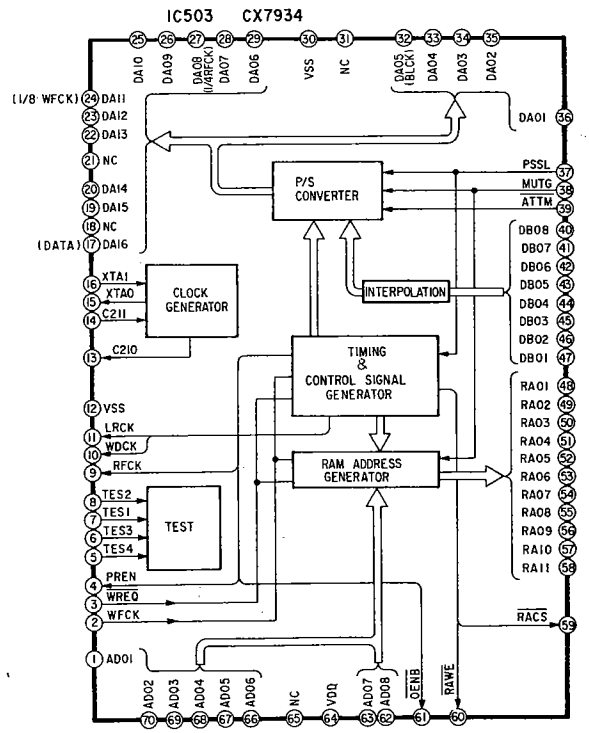
LT9200N



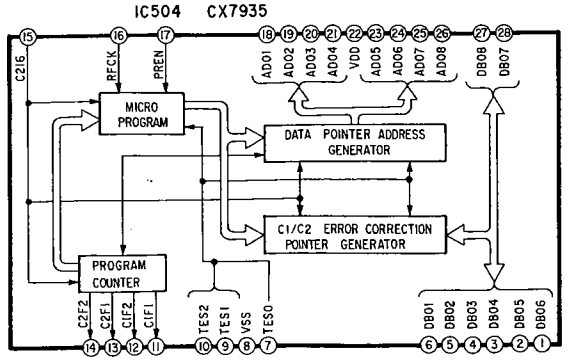
IC507 CX20017



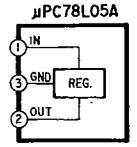
IC503 CX7934



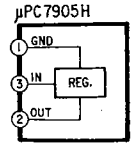
IC504 CX7935



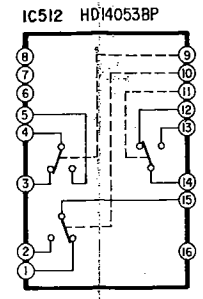
IC515
μPC78L05A



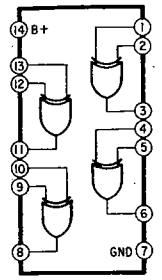
IC516
μPC7905H



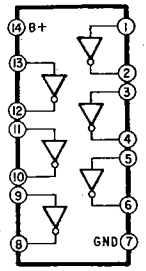
IC512 HD14053BP



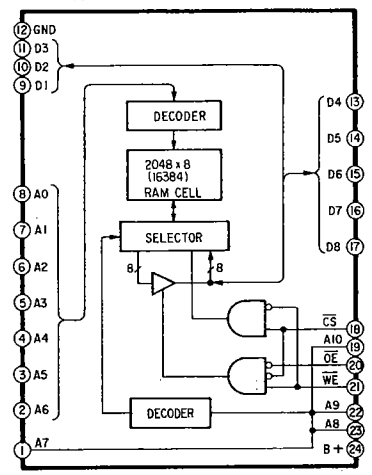
IC406
SN74LS86N



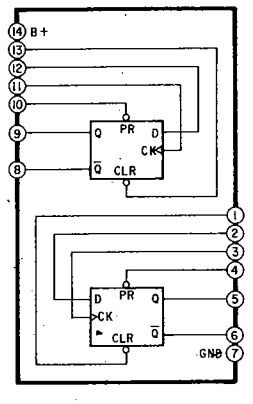
IC402,404,405
TC40H004P



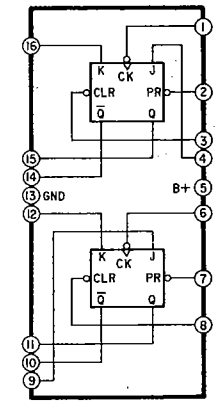
IC501 MSM5128-12RS



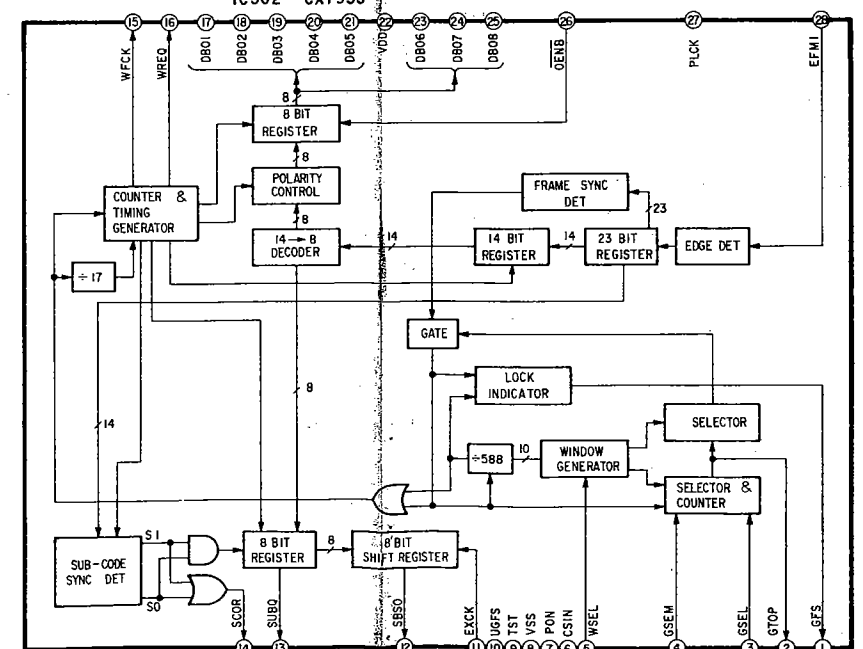
IC409 SN74LS74AN

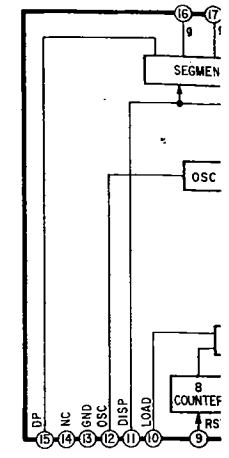


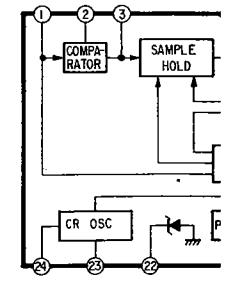
IC410 SN74LS76AN



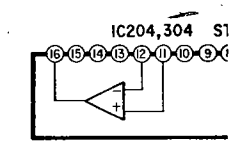
IC502 CX7933



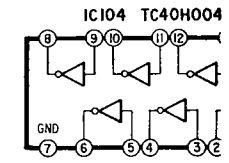




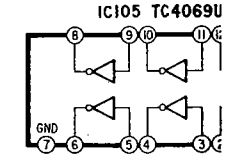
IC204,304 ST



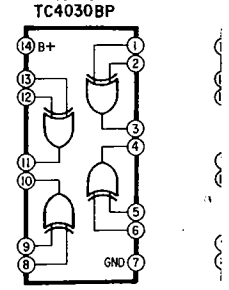
IC104 TC40H004



IC105 TC4069U

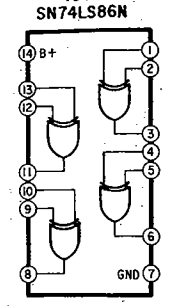


IC108
TC4030BP

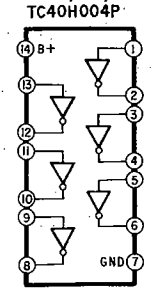


SECTION 5
EXPLODED VIEWS AND PARTS LIST

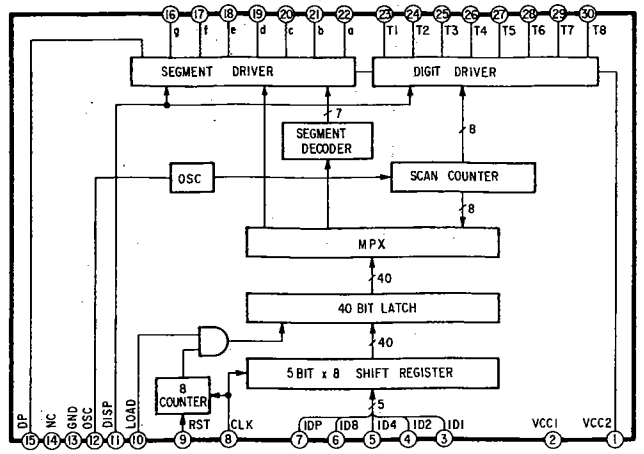
IC406
SN74LS86N



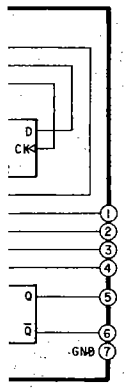
IC402,404,405
TC40H004P



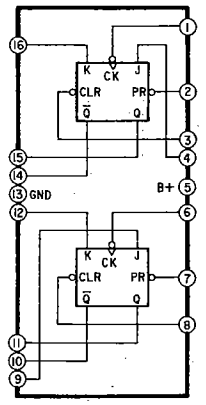
IC901 M54940P



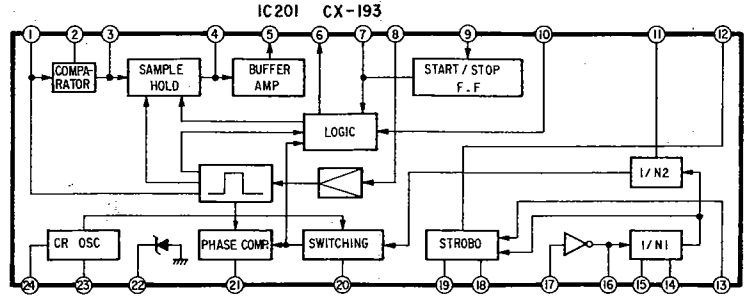
74AN



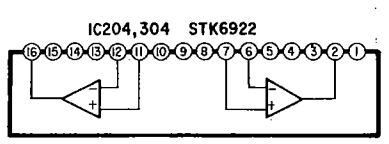
IC410 SN74LS76AN



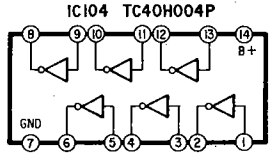
IC201 CX-193



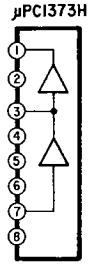
IC204,304 STK6922



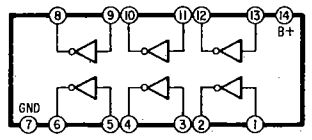
IC104 TC40H004P



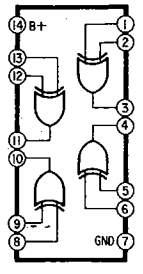
IC1
μPC1373H



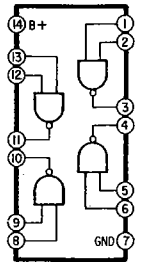
IC105 TC4069UBP

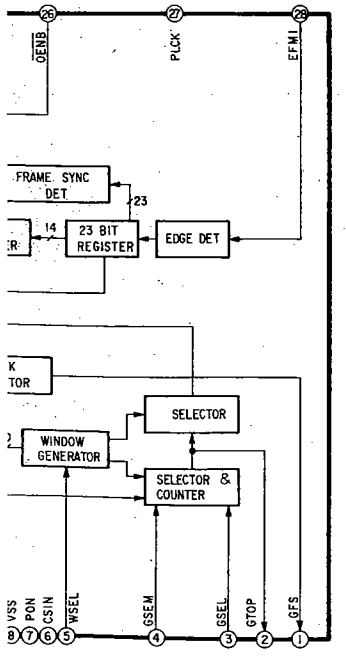


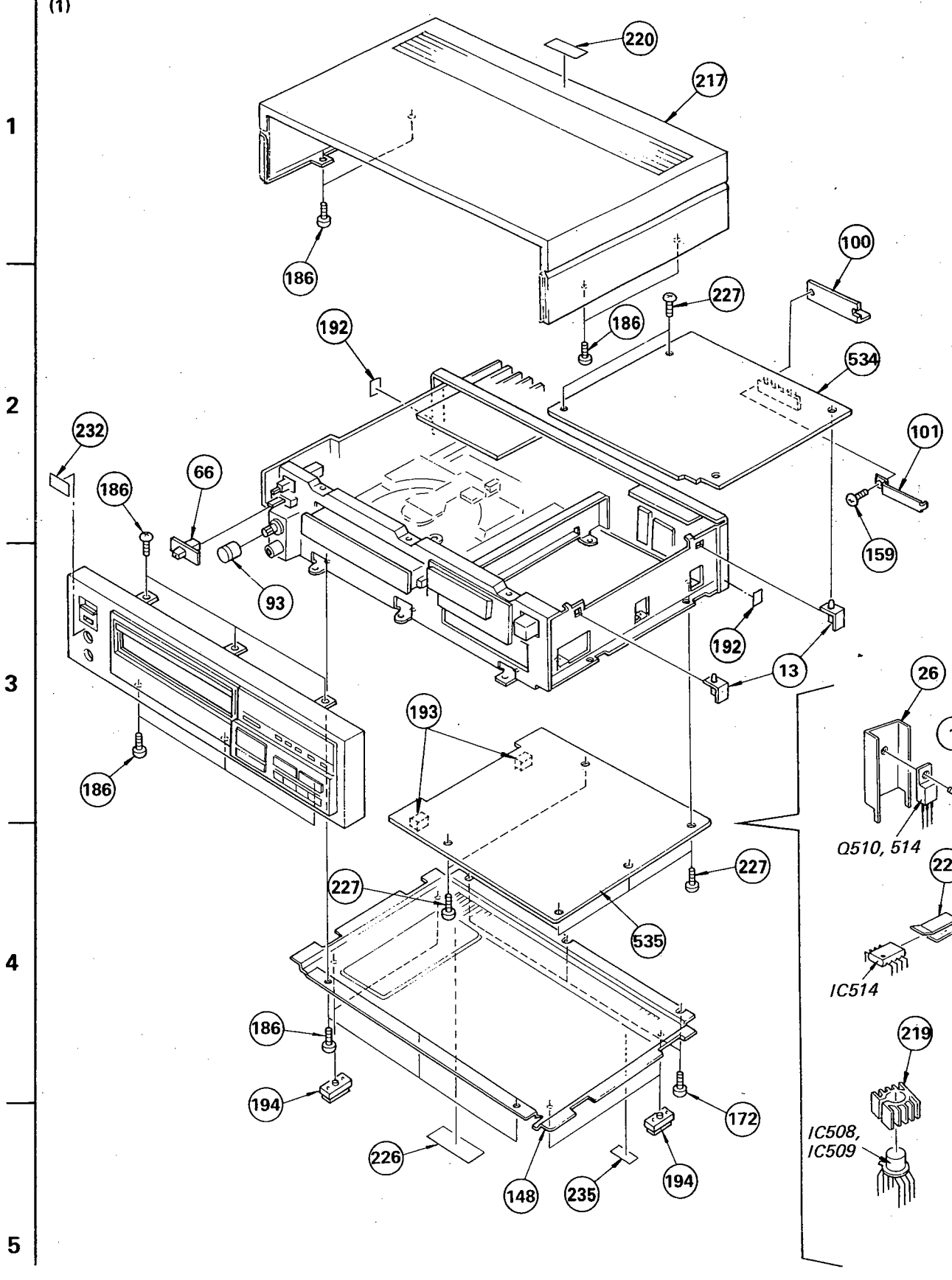
IC108
TC4030BP

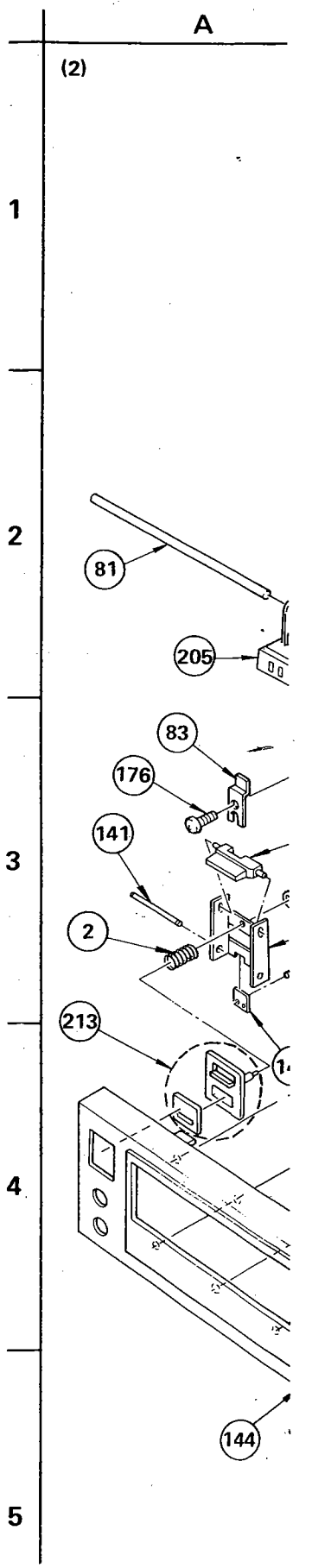


IC106,107
TC4011BP



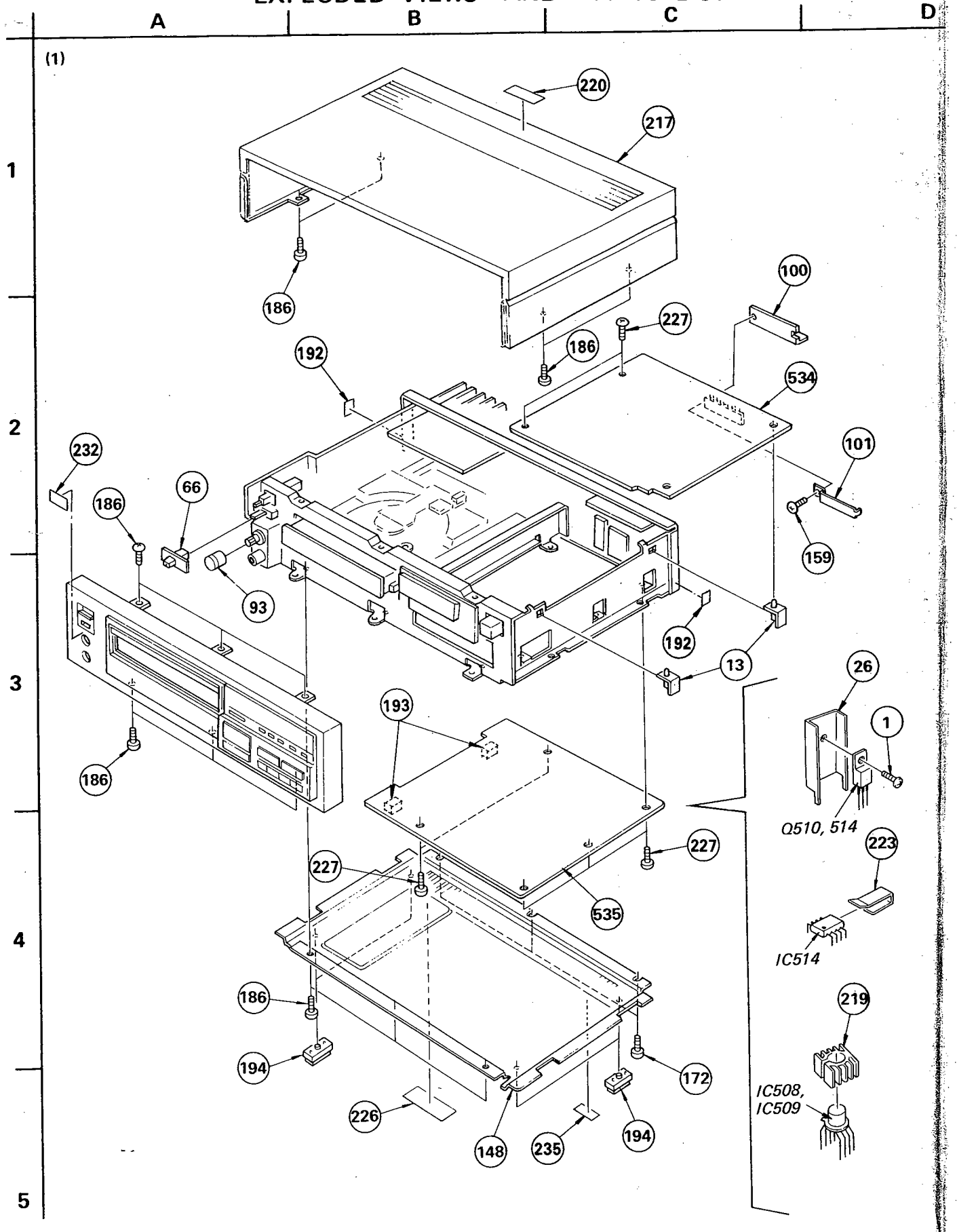


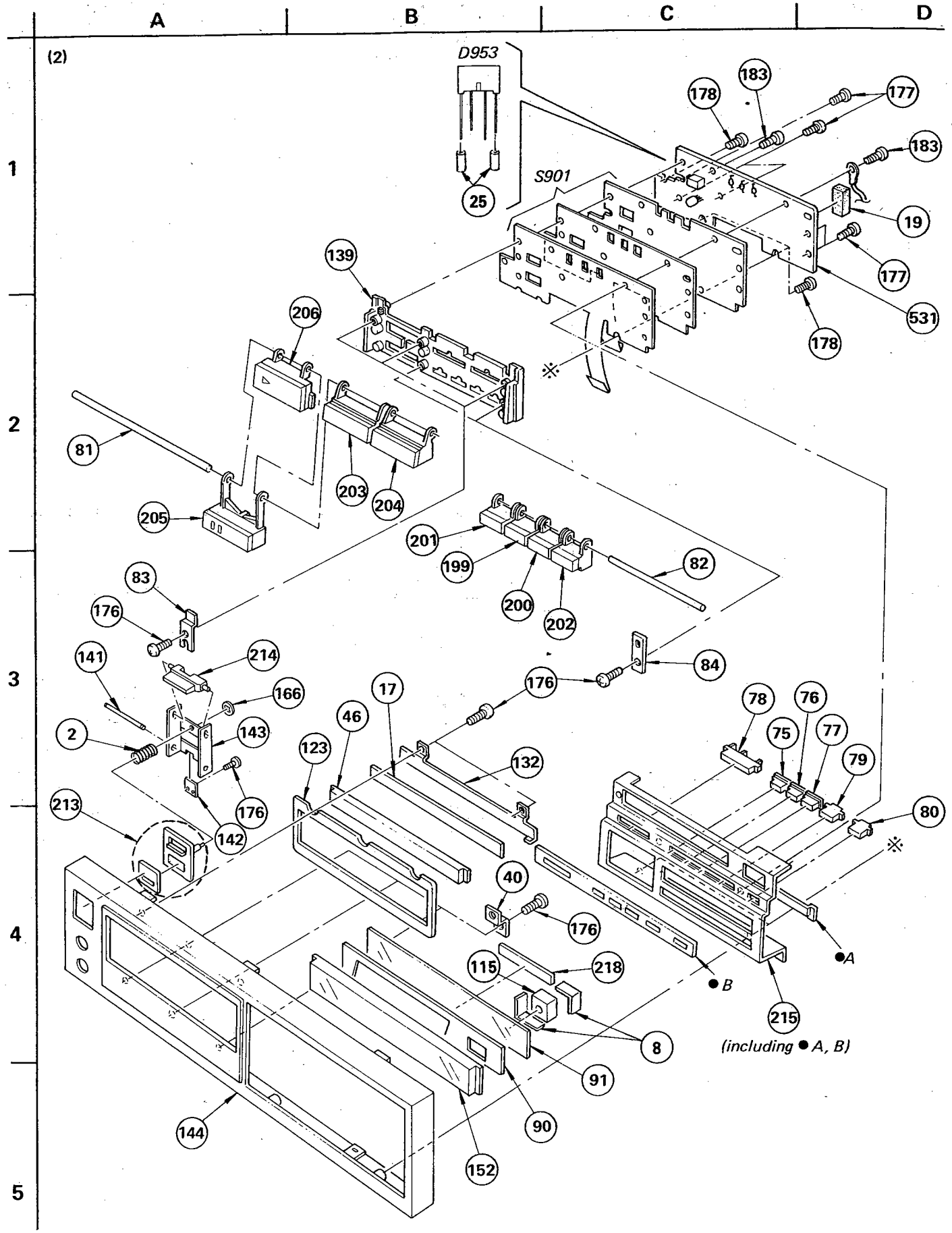


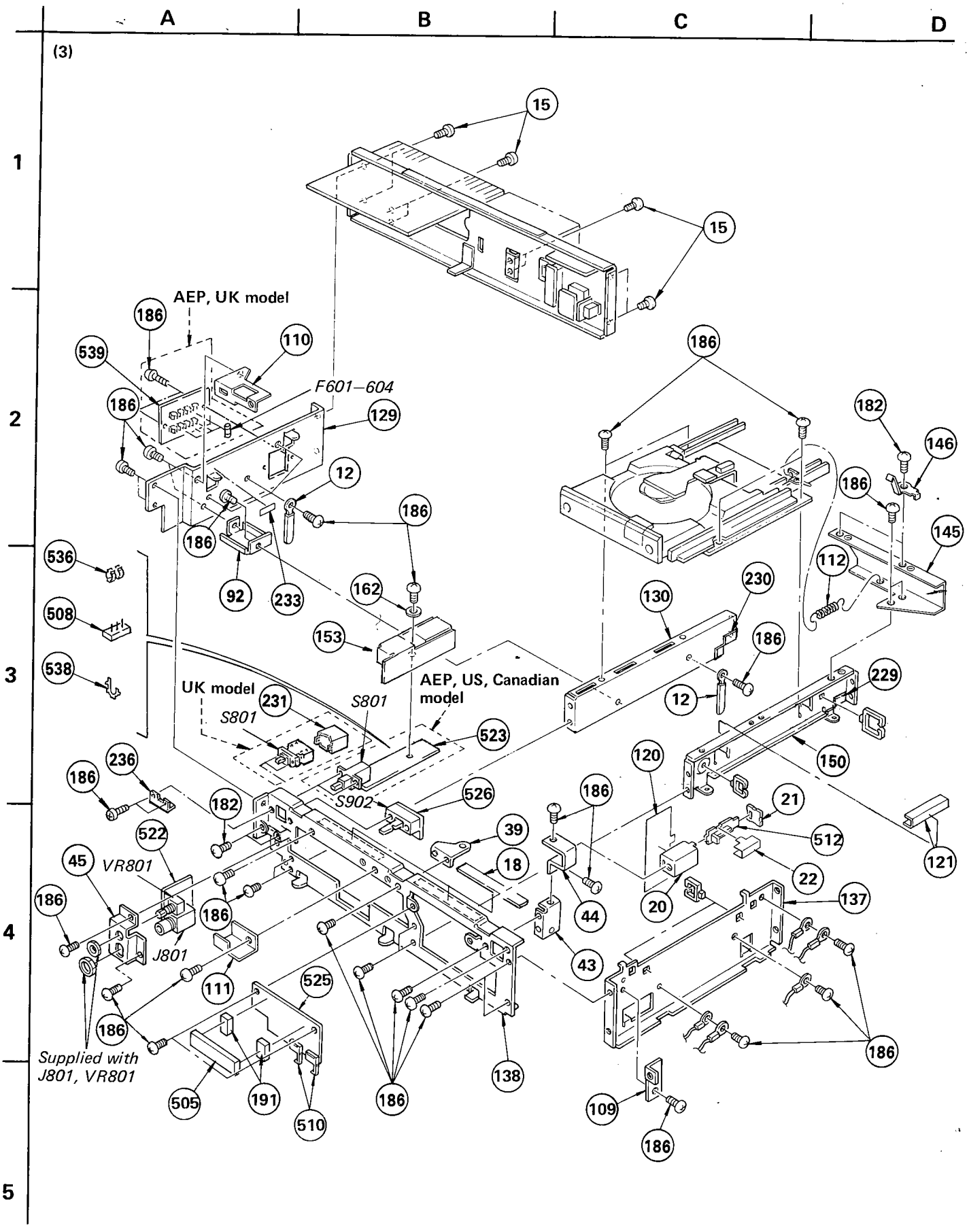


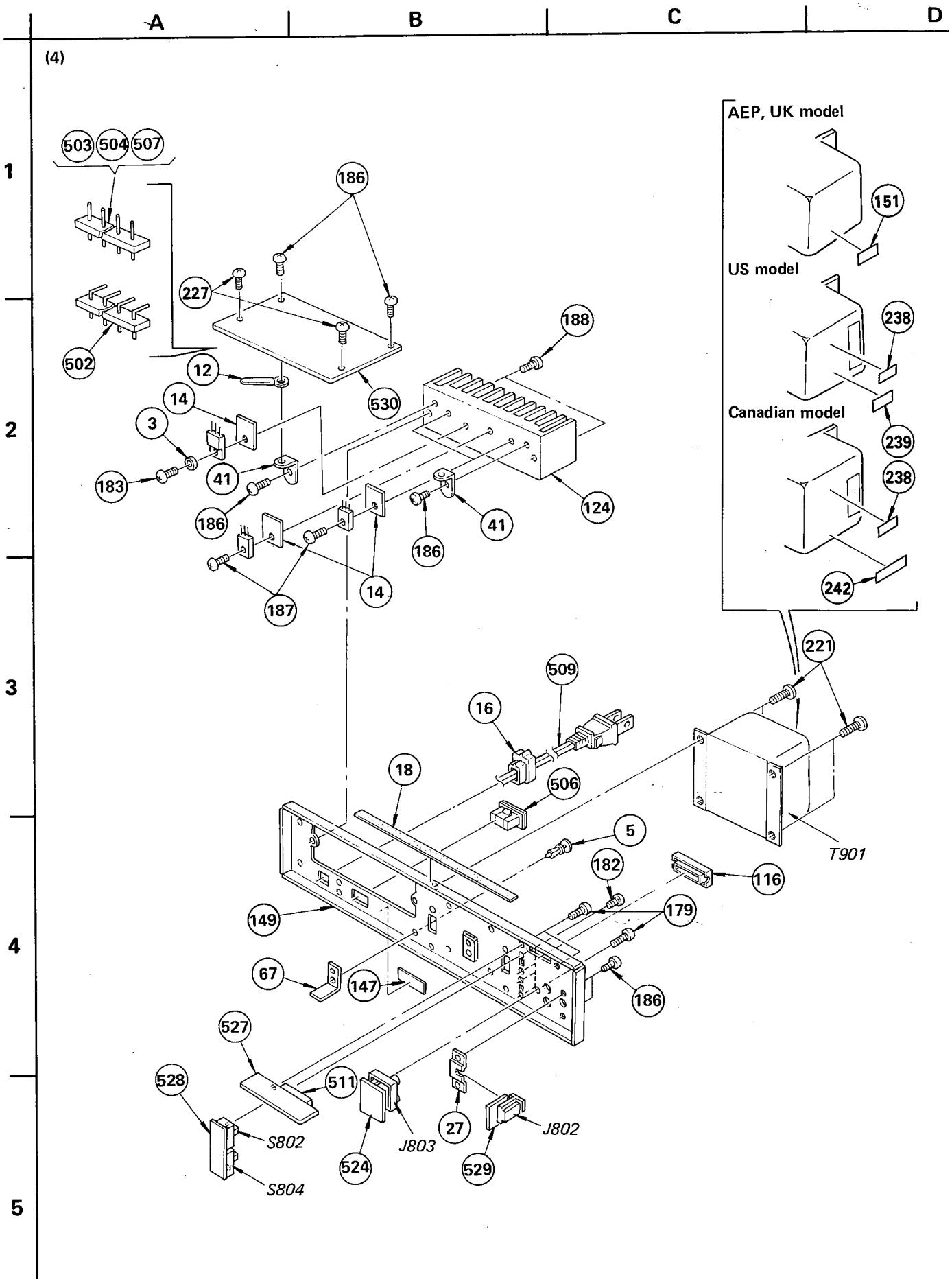
SECTION 5

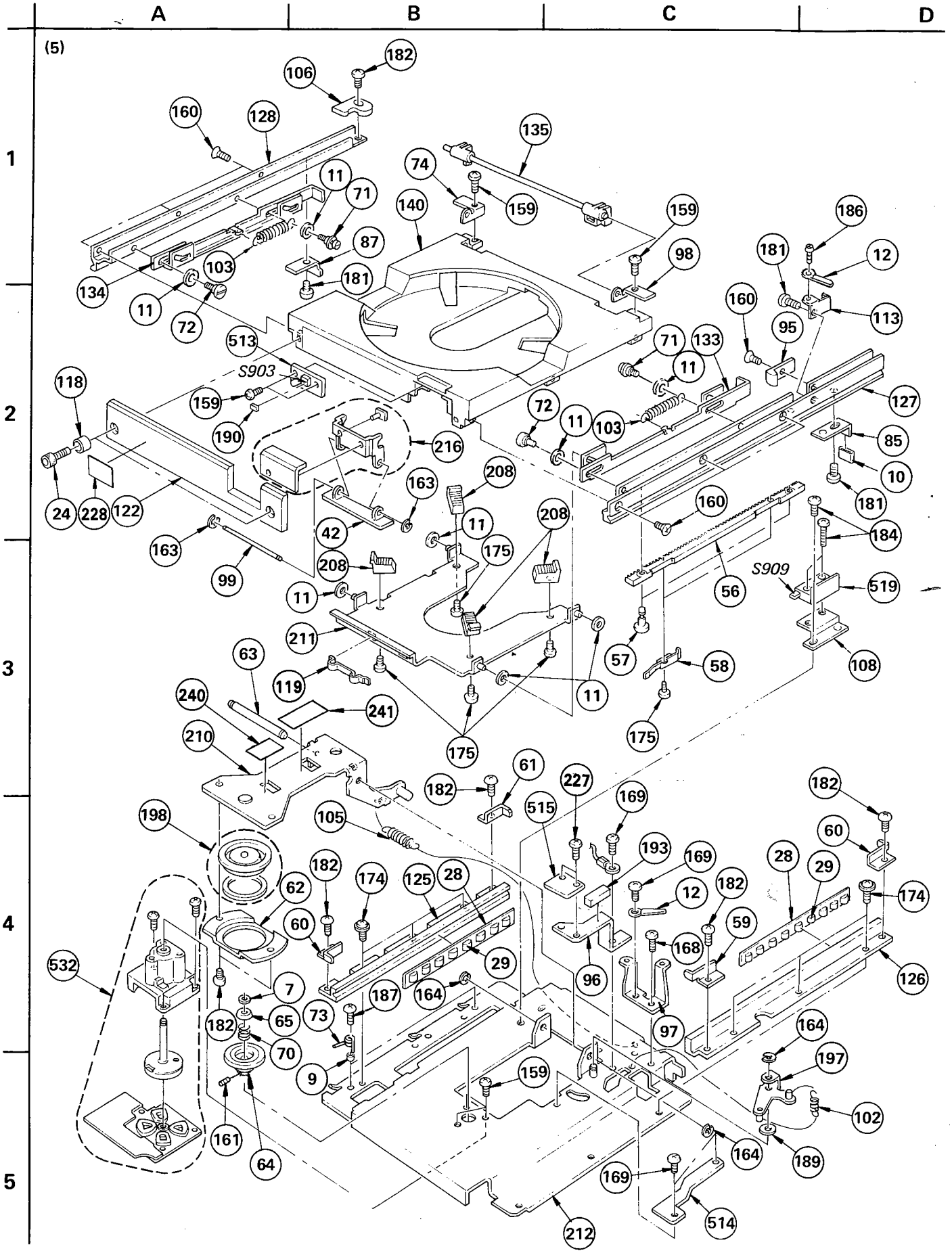
EXPLODED VIEWS AND PARTS LIST

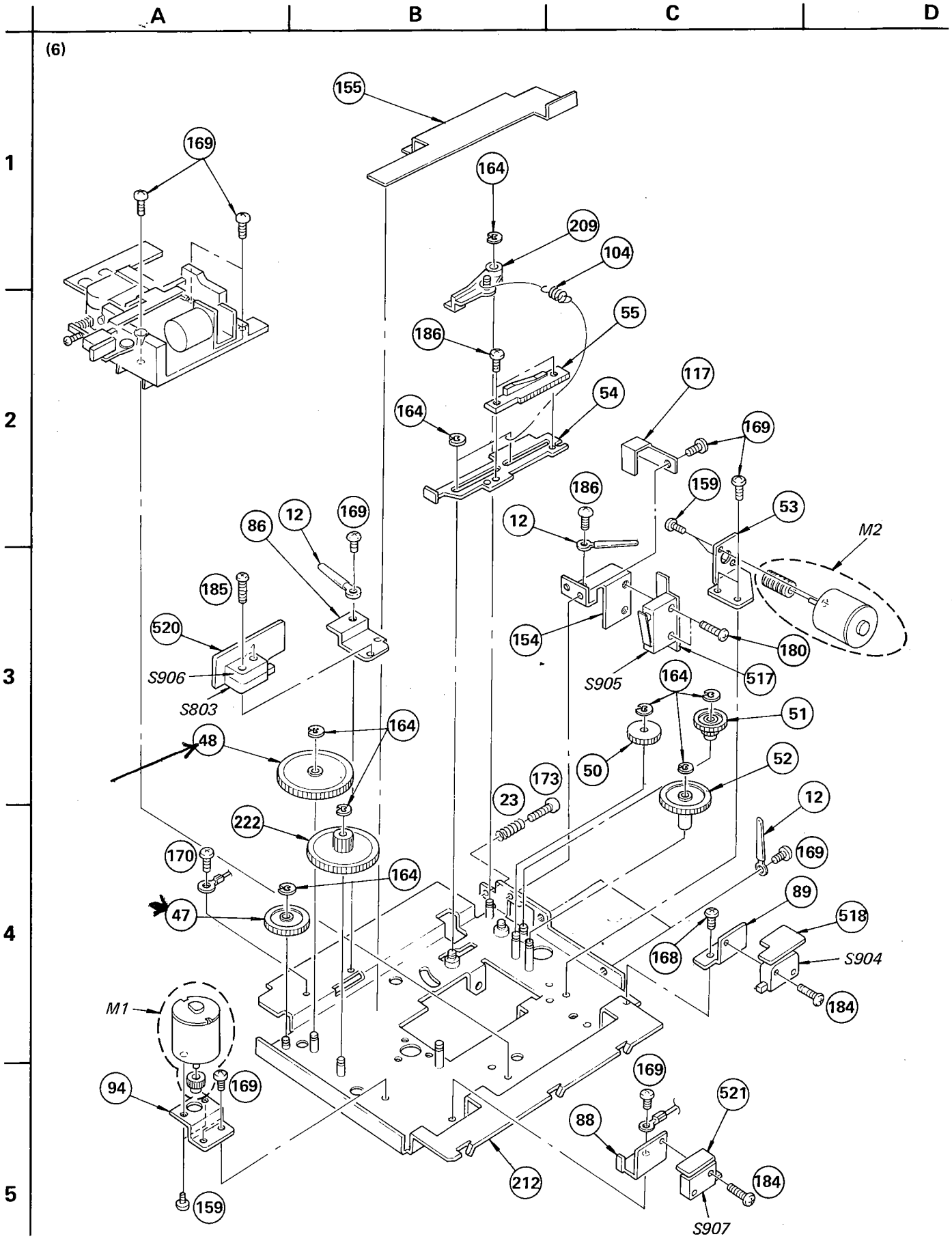


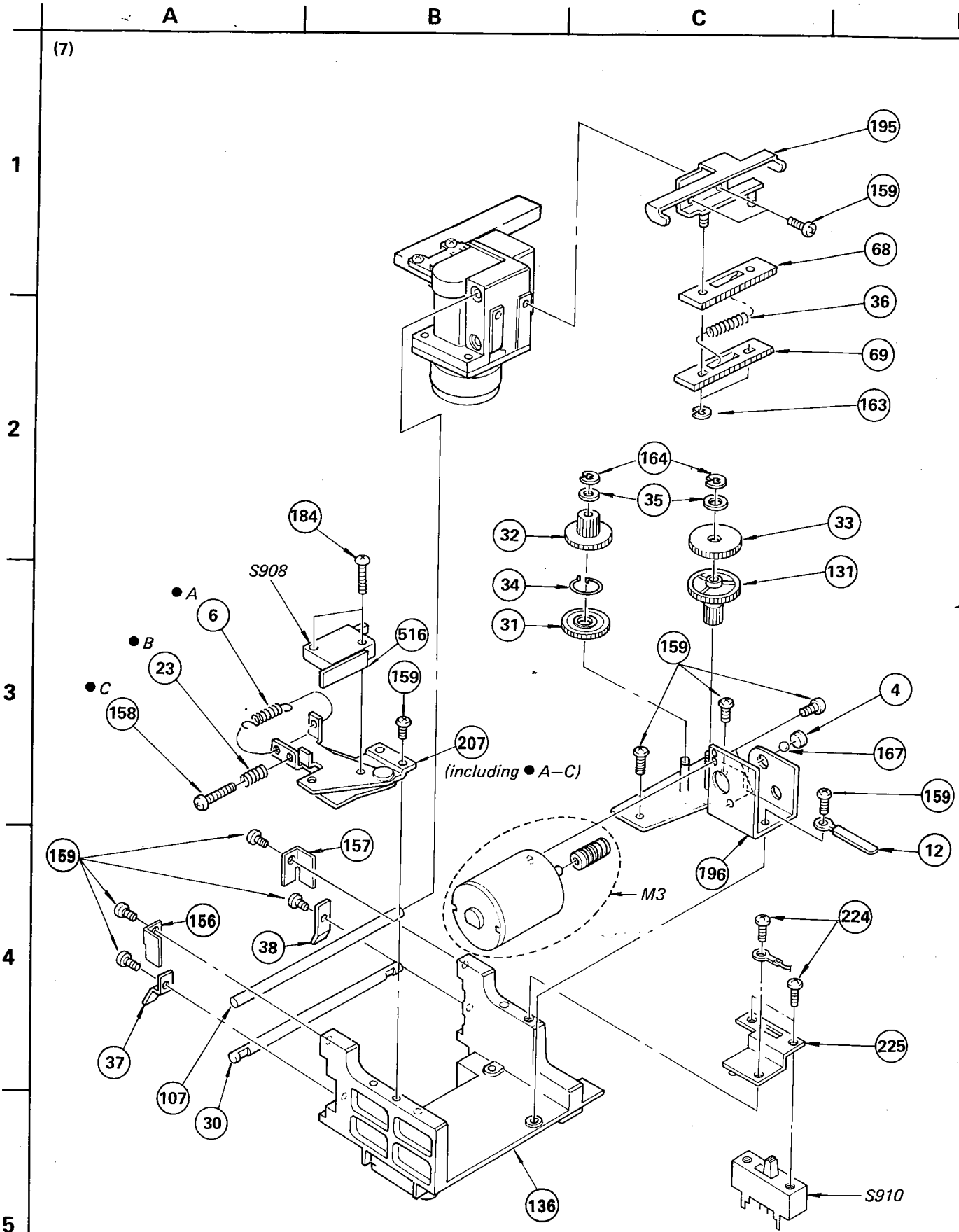



A
B
C
D
(3)
1
2
3
4
5
AEP, UK model
F601–604
UK model
S801
AEP, US, Canadian model
S801
VR801
J801
Supplied with J801, VR801
S902
15
186
110
539
129
12
92
233
162
153
536
508
538
231
523
236
526
182
522
45
39
18
44
43
111
525
505
191
510
138
109
130
230
112
146
145
229
150
120
21
512
22
137
20
121


A
B
C
D
(4)
1
2
3
4
5
AEP, UK model
US model
Canadian model
503
504
507
502
186
227
12
530
188
14
3
183
41
124
187
509
16
18
506
5
182
116
149
179
67
147
527
528
511
524
J803
27
529
J802
S802
S804
T901
221
151
238
239
242


A
B
C
D
1
2
3
4
5
(5)
S903
S909


A
B
C
D
1
2
3
4
5
(6)
155
169
164
209
104
55
186
54
117
159
53
M2
12
86
185
520
S906
S803
154
180
S905
517
51
50
52
48
173
23
222
170
47
89
518
168
S904
184
M1
94
88
521
212
S907
159


A
B
C
D
(7)
1
2
3
4
5
195
159
68
36
69
163
164
35
32
33
34
131
31
184
S908
● A
6
516
● B
23
159
● C
158
207
(including ● A–C)
159
4
167
159
12
196
157
159
156
38
M3
224
37
107
30
225
136
S910

GENERAL SECTION

No.	Part No.	Description
1	2-259-121-00	SCREW, TR
2	2-267-020-00	SPRING, COMPRESSION
3	2-832-007-00	BUSHING (K), INSULATING
4	3-489-073-00	SCREW, THRUST
5	3-531-576-01	RIVET
6	3-548-124-00	SPRING, TENSION
7	3-558-708-21	WASHER, STOPPER
8 ♣	3-561-902-00	CLOTH, RETAINING, CASSETTE
9 ♣	4-885-818-00	SPACER
10	3-655-122-00	TIRE, S BRAKE
11	3-701-439-11	WASHER
12 ♣	3-701-822-00	HOLDER, WIRE
13 ♣	3-701-832-00	HINGE, CIRCUIT BOARD
14	3-703-037-00	INSULATOR, TO-220
15	3-703-108-21	SCREW +BV 3X6, S TIGHT
16	3-703-244-00	BUSHING, CORD
17	3-831-441-11	SHEET, ESCUTCHEON
18	3-831-441-XX	FELT
19	4-015-736-00	CUSHION, CHASSIS
20 ♣	4-342-117-00	CASE, SHIELD (MAIN), R
21 ♣	4-342-118-00	LID, SHIELD CASE, R
22 ♣	4-348-551-00	PLATE, SHIELD
23	4-836-836-00	SPRING, COMPRESSION
24	4-885-829-21	BOLT (M2.6X6)
25	4-866-397-00	CUSHION, LED
26 ♣	4-854-790-00	HEAT SINK
27 ♣	4-884-504-00	HOLDER, CONNECTOR
28	4-884-505-00	RETAINER
29	4-884-506-00	ROLLER
30	4-884-509-00	SHAFT, SLIDE
31	4-884-510-00	GEAR (A)
32	4-884-511-00	GEAR (B)
33	4-884-512-00	GEAR (D)
34	4-884-513-00	SPRING (A)
35	4-884-514-00	WASHER
36	4-884-515-00	SPRING (RACK), COMPRESSION
37	4-884-516-00	RETAINER (LEFT), SLIDE SHAFT
38	4-884-517-00	RETAINER (RIGHT), SLIDE SHAFT
39 ♣	4-884-518-00	BRACKET (A), CHASSIS
40 ♣	4-884-519-00	RETAINER, ESCUTCHEON
41 ♣	4-884-520-00	STOPPER (D), CHASSIS
42 ♣	4-884-521-00	BEARING, EJECT KNOB
43 ♣	4-884-522-00	BRACKET (A), CATCHER, RAY
44 ♣	4-884-523-00	BRACKET (B), CATCHER, RAY
45 ♣	4-884-524-00	BRACKET, JACK

GENERAL SECTION

No.	Part No.	Description
46	4-884-525-00	ESCUTCHEON (B), PANEL
47	4-884-526-00	GEAR (A), THREADING
(48)	4-884-528-00	GEAR (B), THREADING
49	.....	
50	4-884-533-00	GEAR (A), CHUCKING
51	4-884-535-00	GEAR (B), CHUCKING
52	4-884-536-00	GEAR (C), CHUCKING
53 ♣	4-884-538-00	BRACKET (B), MOTOR
54 ♣	4-884-539-00	LEVER, CHUCKING CAM
55	4-884-540-00	CAM, CHUCKING
56	4-884-542-00	RACK
57	4-884-543-00	SCREW, RACK
58	4-884-544-00	SPRING
59 ♣	4-884-545-00	PLATE (A), STOPPER, ROLLER
60 ♣	4-884-546-00	PLATE (B), STOPPER, ROLLER
61 ♣	4-884-547-00	PLATE (C), STOPPER, ROLLER
62	4-884-548-00	STOPPER, PRESS PULLEY
63 ♣	4-884-550-00	SHAFT, CHUCKING ARM
64	4-884-554-00	PULLEY, DISK
65	4-884-555-00	CAP, CENTERING
66	4-884-556-00	KNOB, SLIDE SWITCH
67 ♣	4-884-557-00	PLATE, FIXED, WIRE
68	4-884-558-00	RACK (A)
69	4-884-559-00	RACK (B)
70	4-884-560-00	SPRING
71	4-884-561-00	SHAFT (A), CAM LEVER, UP & DOWN
72	4-884-562-00	SHAFT (B), CAM LEVER, UP & DOWN
73	4-884-564-00	SPRING
74	4-884-567-00	RETAINER (LEFT), SHAFT
75	4-884-570-01	KNOB, REPEAT
76	4-884-570-11	KNOB, REPEAT
77	4-884-570-21	KNOB, REPEAT
78	4-884-572-00	KNOB, STOP
79	4-884-573-01	KNOB, CLEAR
80	4-884-573-11	KNOB, CLEAR
81 ♣	4-884-580-00	SHAFT (A), KNOB
82 ♣	4-884-581-00	SHAFT (B), KNOB
83 ♣	4-884-582-00	RETAINER, SHAFT (A), KNOB
84 ♣	4-884-583-00	RETAINER, SHAFT (B), KNOB
85	4-884-584-00	PLATE, STOPPER
86 ♣	4-884-585-00	BRACKET (C), MICRO SWITCH
87 ♣	4-884-586-00	PLATE, DETECTION, THREADING
88 ♣	4-884-587-00	BRACKET (A), MICRO SWITCH
89 ♣	4-884-588-00	BRACKET (B), MICRO SWITCH
90 ♣	4-884-594-00	PLATE, DISPLAY

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♣ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

GENERAL SECTION

No.	Part No.	Description
91 ♦	4-884-595-00	FILTER
92 ♦	4-884-596-00	ANGLE, SIDE PLATE
93	4-884-597-00	KNOB, CONTROL
94 ♦	4-884-598-00	BRACKET (A), MOTOR
95	4-884-599-00	CAM, LOCK
96 ♦	4-884-601-00	PLATE, DETECTION, DISK
97 ♦	4-884-602-00	STOPPER (B), CHASSIS
98	4-884-610-00	PLATE (RIGHT), BEARING
99 ♦	4-884-611-00	SHAFT, EJECT KNOB
100 ♦	4-884-613-00	HEAT SINK (SMALL)
101 ♦	4-884-614-00	HOLDER, IC
102	4-884-615-00	SPRING
103	4-884-616-00	SPRING
104	4-884-617-00	SPRING
105	4-884-618-00	SPRING
106	4-884-620-00	PLATE, GUIDE
107	4-884-621-00	SHAFT (2), SLIDE
108 ♦	4-884-622-00	BRACKET (E), MICRO SWITCH
109 ♦	4-884-623-00	REINFORCEMENT (A)
110 ♦	4-884-624-00	REINFORCEMENT (D)
111 ♦	4-884-625-00	REINFORCEMENT (B)
112	4-884-626-00	SPRING
113 ♦	4-884-627-00	STOPPER, CORD
114	.....	
115	4-884-631-00	COVER (C), LED
116	4-884-633-00	COVER, CONNECTOR
117	4-884-634-00	PLATE, SPRING, STOPPER
118	4-884-635-00	BASE, ORNAMENTAL
119	4-884-636-00	PLATE, GUIDE, D.P
120 ♦	4-884-637-00	SHEET (C), INSULATING
121	4-884-640-00	COVER, CORD
122	4-884-641-00	PLATE, ORNAMENTAL, FRAME
123	4-884-643-00	ESCUTCHEON (A), PANEL
124	4-884-644-00	HEAT SINK
125 ♦	4-884-646-00	RAIL (LEFT), FIXED
126 ♦	4-884-647-00	RAIL (RIGHT), FIXED
127	4-884-648-00	RAIL (RIGHT)
128	4-884-649-00	RAIL (LEFT)
129 ♦	4-884-651-00	PLATE (LEFT), SIDE
130 ♦	4-884-652-00	BRACKET (LEFT), FRAME
131	4-884-654-00	GEAR (C)
132 ♦	4-884-656-00	RETAINER, FUNCTION PANEL
133 ♦	4-884-657-00	PLATE (RIGHT), CAM, UP & DOWN
134 ♦	4-884-658-00	PLATE (LEFT), CAM, UP & DOWN
135	4-884-660-00	LEVER, FUNCTION

GENERAL SECTION

No.	Part No.	Description
136	4-884-664-00	BASE, OP
137 ♦	4-884-665-00	PLATE (RIGHT), SIDE
138 ♦	4-884-667-00	PANEL, SUB
139	4-884-669-00	BASE, FUNCTION PANEL
140	4-884-672-00	TABLE, DISK
141	4-884-675-00	SHAFT, SEESAW
142 ♦	4-884-676-00	SPRING, RETAINER
143 ♦	4-884-677-00	LEVER, SEESAW
144	4-884-678-00	PANEL, FRONT
145 ♦	4-884-682-00	REINFORCEMENT (E)
146	4-884-683-00	LEAF, SPRING, GROUND
147	4-885-825-00	(US,Canadian)..LABEL, MODEL NUMBER (U,CND)
147	4-885-827-00	(UK).....LABEL, MODEL NUMBER (UK)
147	4-885-828-00	(AEP).....LABEL, MODEL NUMBER (AEP1)
148 ♦	4-884-686-00	PLATE, BOTTOM
149	4-884-687-11	(US)..... ...PLATE, JACK
149	4-884-687-31	(AEP:UP TO SERIAL No. 501000)...PLATE, JACK
149	4-884-687-32	(AEP:SERIAL No. 501001 AND LATER) ...PLATE, JACK
149	4-884-687-41	(UK:UP TO SERIAL No. 600300)....PLATE, JACK
149	4-884-687-42	(UK:SERIAL No. 600301 AND LATER) ...PLATE, JACK
149	4-884-687-51	(Canadian).....PLATE, JACK
150 ♦	4-884-688-00	BRACKET (RIGHT), FRAME
151 ♦	4-884-689-00	(AEP,UK).....LABEL, OS
152	4-884-693-00	PLATE, TRANSPARENT
153 ♦	4-884-694-00	(US,Canadian)...COVER, POWER
153 ♦	4-885-824-00	(AEP).....COVER, POWER
154 ♦	4-884-696-00	BRACKET (D), MICRO SWITCH
155 ♦	4-884-697-00	COVER
156	4-884-698-00	RETAINER(LOWER)(2), SLIDE SHAFT
157	4-884-699-00	RETAINER(LOWER)(1), SLIDE SHAFT
158	4-885-829-00	BOLT (M2.6X12)
159	7-621-284-10	SCREW +P 2.6X5
160	7-621-592-00	SCREW +K 2.6X6
161	7-621-734-09	SET-SCT, HEX. 2.6X3
162	7-623-924-11	WASHER 3.0, NYLONE
163	7-624-104-04	STOP RING 2.0, TYPE -E
164	7-624-106-04	STOP RING 3.0, TYPE -E
165	.....	
166	7-624-190-81	STOP RING 2, TYPE-CS
167	7-671-156-01	BALL, STENLESS
168	7-682-144-01	SCREW +P 3X3
169	7-682-145-09	SCREW +P 3X4
170	7-682-146-01	SCREW +P 3X5
171	.....	

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

GENERAL SECTION

No.	Part No.	Description
172	7-682-545-09	SCREW +B 3X4
173	7-682-551-09	SCREW +B 3X14
174	7-682-948-09	SCREW +PSW 3X8
175	7-685-102-29	SCREW +P 2X4 TYPE2 SLIT
176	7-685-133-11	SCREW +P 2.6X6 TYPE2 SLIT
177	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S
178	7-685-535-14	SCREW +BTP 2.6X10 TYPE2 N-S
179	7-685-646-19	SCREW +BVTP 3X8 TYPE2 N-S
180	7-685-855-09	SCREW +BVTT 2X10 (S)
181	7-685-860-01	SCREW +BVTT 2.6X4 (S)
182	7-685-861-09	SCREW +BVTT 2.6X5 (S)
183	7-685-863-01	SCREW +BVTT 2.6X8 (S)
184	7-685-864-01	SCREW +BVTT 2.6X10 (S)
185	7-685-867-09	SCREW +BVTT 2.6X16 (S)
186	7-685-871-09	SCREW +BVTT 3X6 (S)
187	7-685-872-01	SCREW +BVTT 3X8 (S)
188	7-685-874-09	SCREW +BVTT 3X12 (S)
189	7-688-004-11	W 4, MIDDLE
190	9-911-815-01	CUSHION
191	9-911-838-XX	CUSHION, INDICATION TUBE
192	9-911-840-XX	CUSHION, RUBBER
193	9-911-841-XX	CUSHION (B), RUBBER
194	X-4875-503-2	FOOT ASSY, MF
195	X-4884-501-0	HOLDER ASSY, RACK
196 ♦	X-4884-502-0	HOLDER ASSY, MOTOR
197	X-4884-503-0	LEVER ASSY, UP & DOWN
198	X-4884-504-0	PULLEY ASSY, PRESS
199	X-4884-505-0	KNOB ASSY (A), F.F
200	X-4884-506-0	KNOB ASSY (B), F.F
201	X-4884-507-0	KNOB ASSY (C), F.F
202	X-4884-508-0	KNOB ASSY (D), F.F
203	X-4884-509-0	KNOB ASSY (A), N
204	X-4884-510-0	KNOB ASSY (B), N
205	X-4884-511-0	KNOB ASSY, PAUSE
206	X-4884-512-0	KNOB ASSY, FWD
207 ♦	X-4884-513-0	HOLDER ASSY, SWITCH
208	X-4884-514-0	RETAINER ASSY, DISK
209	X-4884-515-0	ARM ASSY, LOCK
210	X-4884-516-0	ARM ASSY, CHUCKING
211 ♦	X-4884-517-0	PLATE ASSY, DISK
212 ♦	X-4884-518-0	CHASSIS ASSY, MECHANICAL
213	X-4884-521-0	ESCUTCHEON ASSY, POWER KNOB
214	X-4884-522-0	KNOB ASSY, POWER
215	X-4884-525-1	PANEL ASSY
216	X-4884-524-1	EJECT KNOB ASSY

GENERAL SECTION

No.	Part No.	Description
217	X-4884-519-1	CASE ASSY
218	2-242-926-00	CUSHION, SIDE PLATE
219	2-269-798-01	HEAT SINK, OPERATION AMPLIFIER (IC508,509
220	4-885-831-00	LABEL, CAUTION
221	4-885-801-01	SCREW (CLAW), S TIGHT, +BV4
222	4-885-816-00	GEAR (D), LOADING
223 ♦	4-885-810-00	HOLDER (B), IC (IC514)
224	7-621-775-10	SCREW +B 2.6X4
225 ♦	4-885-802-00	HOLDER, B. SWITCH
226 ♦	4-885-832-00	LABEL
227	7-685-871-01	SCREW +BVTT 3X6 (S)
228	3-703-709-00	STICKER, SONY SYMBOL (15)
229 ♦	4-885-822-00	SHEET, EDGE (B)
230 ♦	4-885-823-00	SHEET, EDGE (A)
231	3-559-001-00	(UK)...COVER, POWER SWITCH
232	3-701-690-00	(UK).....LABEL (MADE IN JAPAN)
233	3-701-948-11	(AEP).....LABEL, FUSE
233 ♦	3-703-044-26	(US,Canadian)...LABEL, CAUTION
234 ♦	3-701-946-22	(US,Canadian)...LABEL, FUSE
235	3-703-043-21	(UK).....LABEL, CAUTION, MAIN
235	3-703-619-01	(US,Canadian)...LABEL, MAIN CAUTION
236 ♦	4-885-830-00	(AEP)...COVER (LOWER), POWER
237	.....	
238	3-703-082-21	(US,Canadian)...LABEL, CAUTION
239	2-362-383-00	(US)....LABEL
239 ♦	4-885-838-00	(AEP)...LABEL, CLASS 1
240	4-884-501-00	(Canadian)...LABEL, LASER MARK
240 ♦	4-885-839-00	(AEP).....LABEL, APERTURE
241	4-884-503-01	(US).....LABEL, CAUTION, LASER
241 ♦	4-885-833-01	(Canadian)...LABEL (CSA), CAUTION, LASER
242 ♦	4-884-680-00	(Canadian)...LABEL

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
251	1-528-027-11	BATTERY, NEW SUPER (SUM-3)(NS)
252	1-551-315-00	CORD, CONNECTION (RK-112)
253	⚠1-564-085-00	(UK)...ADAPTOR, AC PLUG
254	2-375-012-00	BAG, PROTECTION (FOR RM-101 SET)
255	3-701-619-00	BAG, POLYETHYLENE, STANDARD
256	3-701-630-00	BAG, POLYETHYLENE
257	3-773-174-11	(AEP:UP TO SERIAL No. 501000, UK:UP TO SERIAL No. 600300)...MANUAL, INSTRUCTION
257	3-773-174-12	(AEP:SERIAL No. 501001, AND LATER UK:SERIAL No. 600301, AND LATER) ...MANUAL, INSTRUCTION
257	3-773-174-21	(US,Canadian)...MANUAL, INSTRUCTION
258	3-773-174-31	(Canadian).....MANUAL, INSTRUCTION
259	3-773-174-41	(AEP:UP TO SERIAL No. 501000) ....MANUAL, INSTRUCTION
259	3-773-174-42	(AEP:SERIAL No. 501001 AND LATER) ....MANUAL, INSTRUCTION
260	4-884-695-00	CLEANER, DISK
261	4-885-812-00	CUSHION (RIGHT), UPPER
262	4-885-813-00	CUSHION (LEFT), UPPER
263	4-885-814-00	CUSHION (RIGHT), LOWER
264	4-885-815-00	CUSHION (LEFT), LOWER
265	4-885-820-00	BAG, PROTECTION (FOR CDP-101 SET)
266	4-885-834-00	SHEET, PROTECTION (FOR RM-101 SET)
267	4-885-835-00	SPACER
268	4-885-811-00	(US,Canadian)...INDIVIDUAL CARTON
268	4-885-836-00	(AEP,UK).....INDIVIDUAL CARTON
269	4-885-840-00	LABEL, COMPACT DISC

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	.....	
502	♦;1-508-806-13	U TYPE BASE POST
503	♦;1-508-809-00	BASE POST (14MM) 2P
504	♦;1-508-811-00	BASE POST (14MM) 4P
505	1-519-275-00	INDICATOR TUBE, FLUORESCENT
506	⚠1-526-609-00	(US).....OUTLET, AC
506	⚠1-526-694-00	(AEP).....OUTLET, AC
506	⚠1-526-751-00	(UK).....OUTLET, AC
506	⚠1-526-882-00	(Canadian)...OUTLET, AC
507	♦;1-535-120-00	TERMINAL
508	♦;1-535-136-00	(AEP)...BASE POST 14MM (10MM PITCH) 3P
509	⚠1-555-701-00	(US,Canadian)...CORD, POWER
509	⚠1-555-795-00	(AEP).....CORD, POWER
509	⚠1-556-035-00	(UK).....CORD, POWER
510	1-561-852-00	SOCKET, CONNECTOR 5P
511	1-562-042-00	SOCKET, CONNECTOR 26P
512	♦;1-603-976-00	PC BOARD, N
513	♦;1-608-664-00	PC BOARD, EJECT SWITCH
514	♦;1-608-665-00	PC BOARD, DISC DETECT PHOTO TR
515	♦;1-608-666-00	PC BOARD, DISC DETECTION LED
516	♦;1-608-667-00	PC BOARD, LIMIT SWITCH
517	♦;1-608-668-00	PC BOARD, CHUCKING SWITCH
518	♦;1-608-669-00	PC BOARD, LOADING SWITCH
519	♦;1-608-670-00	PC BOARD, LASER SWITCH
520	♦;1-608-671-00	PC BOARD, IN SWITCH
521	♦;1-608-672-00	PC BOARD, OUT SWITCH
522	♦;1-608-674-00	PC BOARD, HEADPHONE
523	♦;1-608-899-00	(AEP,US,Canadian)..PC BOARD,POWER SWITCH
524	♦;1-608-676-00	PC BOARD, LINE OUT
525	♦;1-608-678-00	PC BOARD, INDICATION
526	♦;1-608-679-00	PC BOARD, TIMER SWITCH
527	♦;1-608-680-00	PC BOARD, ACCESSORY PORT
528	♦;1-608-681-00	PC BOARD, AUTO PAUSE SWITCH
529	♦;1-608-682-00	(AEP:UP TO SERIAL No. 501000, UK:UP TO SERIAL No. 600300) ...PC BOARD, REMOTE CONTROL
530	♦;1-608-683-00	PC BOARD, POWER SUPPLY
531	♦;1-608-684-00	PC BOARD, LED
532	8-838-039-01	MOTOR, DC (DHR-2600A)
533	8-848-001-01	T-TYPE OPTICAL PICK-UP, KSS-100A
534	♦;1-608-677-00	PC BOARD, SERVO AMP
535	♦;1-608-673-00	PC BOARD, AUDIO AMP
536	1-533-131-00	HOLDER, FUSE
537	♦;1-535-117-00	(AEP,UK).....TERMINAL
538	♦;1-535-416-00	(AEP,US,Canadian)...TERMINAL
539	♦;1-609-503-00	(AEP,UK)...PC BOARD, FUSE

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
540	♦;A-4618-090-A	(US,Canadian)..MOUNTED PCB, POWER SUPPLY			
540	♦;A-4618-096-A	(UK,AEP).....MOUNTED PCB, POWER SUPPLY			
541	♦;A-4619-187-A	(US,Canadian)...MOUNTED PCB, SERVO AMP			
541	♦;A-4619-196-A	(AEP,UK).....MOUNTED PCB, SERVO AMP			
542	♦;A-4646-119-A	(US,Canadian)...MOUNTED PCB, AUDIO AMP			
542	♦;A-4646-139-A	(AEP,UK).....MOUNTED PCB, AUDIO AMP			
1B1	1-232-004-00	COMPOSITION CIRCUIT BLOCK			
B101	1-529-016-00	BUZZER, PIEZOELECTRIC			
C1	1-123-617-00	ELECT	10MF	20%	16V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-123-617-00	ELECT	10MF	20%	16V
C4	1-161-019-00	CERAMIC	0.033MF	10%	25V
C5	1-108-567-00	MYLAR	0.0033MF	5%	50V
C101	1-102-106-00	CERAMIC	100PF	10%	50V
C102	1-102-106-00	CERAMIC	100PF	10%	50V
C103	1-161-317-00	CERAMIC	330PF	10%	50V
C104	1-102-110-00	CERAMIC	220PF	10%	50V
C105	1-102-110-00	CERAMIC	220PF	10%	50V
C106	1-123-493-00	ELECT	47MF	20%	16V
C107	1-130-628-00	FILM	0.047MF	5%	50V
C108	1-161-323-00	CERAMIC	0.001MF	10%	50V
C109	1-123-356-00	ELECT	10MF	20%	16V
C110	1-123-356-00	ELECT	10MF	20%	16V
C111	1-101-004-00	CERAMIC	0.01MF		50V
C112	1-161-315-00	CERAMIC	220PF	10%	50V
C113	1-161-315-00	CERAMIC	220PF	10%	50V
C115	1-123-356-00	ELECT	10MF	20%	16V
C116	1-123-356-00	ELECT	10MF	20%	16V
C117	1-131-386-00	TANTALUM	33MF	20%	6.3V
C201	1-130-188-00	FILM	0.01MF	5%	100V
C202	1-130-626-00	FILM	0.033MF	5%	50V
C203	1-130-620-00	FILM	0.01MF	5%	50V
C204	1-123-380-00	ELECT	1MF	20%	50V
C205	1-130-624-00	FILM	0.022MF	5%	50V
C206	1-130-620-00	FILM	0.01MF	5%	50V
C207	1-123-307-00	ELECT	100MF	20%	6.3V
C208	1-123-317-00	ELECT	22MF	20%	16V
C210	1-161-319-00	CERAMIC	470PF	10%	50V
C211	1-130-632-00	FILM	0.1MF	5%	50V
C212	1-123-305-00	ELECT	33MF	20%	10V
C213	1-123-306-00	ELECT	47MF	20%	10V
C214	1-123-231-00	ELECT(NONPOLAR)	3.3MF	20%	50V
C215	1-130-626-00	FILM	0.033MF	5%	50V
C216	1-161-259-00	CERAMIC	10PF	5%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C219	1-123-493-00	ELECT	47MF	20%	16V
C220	1-123-493-00	ELECT	47MF	20%	16V
C221	1-123-307-00	ELECT	100MF	20%	6.3V
C222	1-123-493-00	ELECT	47MF	20%	16V
C223	1-123-493-00	ELECT	47MF	20%	16V
C224	1-123-306-00	ELECT	47MF	20%	10V
C301	1-108-577-00	MYLAR	0.0082MF	5%	50V
C302	1-161-271-00	CERAMIC	100PF	5%	50V
C303	1-108-555-00	MYLAR	0.001MF	5%	50V
C304	1-130-624-00	FILM	0.022MF	5%	50V
C305	1-123-608-00	ELECT	0.22MF	20%	50V
C306	1-130-623-00	FILM	0.018MF	5%	50V
C307	1-106-188-00	MYLAR	0.0047MF	5%	100V
C308	1-161-494-00	CERAMIC	0.022MF	30%	25V
C309	1-123-231-00	ELECT(NONPOLAR)	3.3MF	20%	50V
C310	1-161-263-00	CERAMIC	22PF	5%	50V
C312	1-161-323-00	CERAMIC	0.001MF	10%	50V
C313	1-161-323-00	CERAMIC	0.001MF	10%	50V
C314	1-130-636-00	FILM	0.22MF	5%	50V
C315	1-130-620-00	FILM	0.01MF	5%	50V
C316	1-130-628-00	FILM	0.047MF	5%	50V
C317	1-130-620-00	FILM	0.01MF	5%	50V
C401	1-161-265-00	CERAMIC	33PF	5%	50V
C402	1-161-265-00	CERAMIC	33PF	5%	50V
C403	1-161-259-00	CERAMIC	10PF	5%	50V
C404	1-161-259-00	CERAMIC	10PF	5%	50V
C405	1-161-264-00	CERAMIC	27PF	5%	50V
C406	1-161-264-00	CERAMIC	27PF	5%	50V
C407	1-130-632-00	FILM	0.1MF	5%	50V
C409	1-161-323-00	CERAMIC	0.001MF	10%	50V
C410	1-130-633-00	FILM	0.12MF	5%	50V
C411	1-161-267-00	CERAMIC	47PF	5%	50V
C412	1-161-267-00	CERAMIC	47PF	5%	50V
C413	1-108-234-00	MYLAR	0.0047MF	10%	50V
C414	1-107-306-00	MICA	180PF	5%	100V
C415	1-161-330-00	CERAMIC	0.01MF	30%	25V
C416	1-161-327-00	CERAMIC	0.0033MF	30%	50V
C417	1-161-271-00	CERAMIC	100PF	5%	50V
C418	1-108-354-00	MYLAR	0.0039MF	10%	50V
C419	1-161-375-00	CERAMIC	0.0022MF	20%	50V
C420	1-161-375-00	CERAMIC	0.0022MF	20%	50V
C421	1-102-645-00	CERAMIC	33PF	5%	50V
C422	1-161-315-00	CERAMIC	220PF	10%	50V
C423	1-102-645-00	CERAMIC	33PF	5%	50V
C424	1-123-318-00	ELECT	33MF	20%	16V

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C425	1-130-620-00	FILM	0.01MF	5%	50V
C427	1-123-318-00	ELECT	33MF	20%	16V
C428	1-123-318-00	ELECT	33MF	20%	16V
C429	1-123-318-00	ELECT	33MF	20%	16V
C430	1-123-318-00	ELECT	33MF	20%	16V
C431	1-123-318-00	ELECT	33MF	20%	16V
C432	1-123-318-00	ELECT	33MF	20%	16V
C433	1-123-318-00	ELECT	33MF	20%	16V
C434	1-123-318-00	ELECT	33MF	20%	16V
C435	1-123-318-00	ELECT	33MF	20%	16V
C436	1-123-318-00	ELECT	33MF	20%	16V
C437	1-123-299-00	ELECT	1000MF	20%	6.3V
C438	1-161-265-00	CERAMIC	33PF	5%	50V
C439	1-161-255-00	CERAMIC	4.7PF	10%	50V
C440	1-161-330-00	CERAMIC	0.01MF	30%	25V
C441	1-161-330-00	CERAMIC	0.01MF	30%	25V
C442	1-161-323-00	CERAMIC	0.001MF	10%	50V
C444	1-131-386-00	TANTALUM	33MF	20%	6.3V
C445	1-131-386-00	TANTALUM	33MF	20%	6.3V
C446	1-131-386-00	TANTALUM	33MF	20%	6.3V
C447	1-131-386-00	TANTALUM	33MF	20%	6.3V
C448	1-123-318-00	ELECT	33MF	20%	16V
C450	1-130-626-00	FILM	0.033MF	5%	50V
C452	1-101-004-00	CERAMIC	0.01MF		50V
C453	1-123-465-00	ELECT	220MF	20%	6.3V
C503	1-102-953-00	CERAMIC	18PF	5%	50V
C505	1-102-074-00	CERAMIC	0.001MF	10%	50V
C506	1-131-450-00	TANTALUM	1MF	20%	50V
C507	1-123-318-00	ELECT	33MF	20%	16V
C508	1-123-318-00	ELECT	33MF	20%	16V
C509	1-123-318-00	ELECT	33MF	20%	16V
C510	1-123-318-00	ELECT	33MF	20%	16V
C511	1-131-450-00	TANTALUM	1MF	20%	50V
C512	1-104-231-00	POLYSTYRENE	0.001MF	5%	500V
C513	1-104-231-00	POLYSTYRENE	0.001MF	5%	500V
C514	1-131-450-00	TANTALUM	1MF	20%	50V
C515	1-131-450-00	TANTALUM	1MF	20%	50V
C517	1-107-167-00	MICA	75PF	5%	500V
C518	1-107-167-00	MICA	75PF	5%	500V
C519	1-131-450-00	TANTALUM	1MF	20%	50V
C520	1-131-450-00	TANTALUM	1MF	20%	50V
C521	1-131-450-00	TANTALUM	1MF	20%	50V
C522	1-131-450-00	TANTALUM	1MF	20%	50V
C525	1-130-960-00	FILM	0.01MF	2%	100V
C526	1-130-960-00	FILM	0.01MF	2%	100V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C527	1-124-336-00	ELECT(NONPOLAR)	10MF	20%	100V
C528	1-124-336-00	ELECT(NONPOLAR)	10MF	20%	100V
C541	1-102-074-00	CERAMIC	0.001MF	10%	50V
C545	1-101-880-00	CERAMIC	47PF	5%	50V
C546	1-102-106-00	CERAMIC	100PF	10%	50V
C547	1-101-004-00	CERAMIC	0.01MF		50V
C548	1-123-318-00	ELECT	33MF	20%	16V
C549	1-123-318-00	ELECT	33MF	20%	16V
C550	1-131-450-00	TANTALUM	1MF	20%	50V
C551	1-131-450-00	TANTALUM	1MF	20%	50V
C571	1-123-693-00	ELECT	100MF	20%	25V
C572	1-123-693-00	ELECT	100MF	20%	25V
C573	1-123-681-00	ELECT	47MF	20%	16V
C574	1-123-681-00	ELECT	47MF	20%	16V
C575	1-131-450-00	TANTALUM	1MF	20%	50V
C576	1-131-450-00	TANTALUM	1MF	20%	50V
C577	1-102-947-00	CERAMIC	10PF	5%	50V
C578	1-102-947-00	CERAMIC	10PF	5%	50V
C579	1-123-324-00	ELECT	1000MF	20%	16V
C580	1-123-324-00	ELECT	1000MF	20%	16V
C581	1-123-609-00	ELECT	0.33MF	20%	50V
C582	1-123-609-00	ELECT	0.33MF	20%	50V
C583	1-123-474-00	ELECT	100MF	20%	10V
C584	1-123-474-00	ELECT	100MF	20%	10V
C585	1-130-628-00	FILM	0.047MF	5%	50V
C586	1-102-947-00	CERAMIC	10PF	5%	50V
C590	1-102-074-00	CERAMIC	0.001MF	10%	50V
C591	1-131-386-00	TANTALUM	33MF	20%	6.3V
C601 ⚠	1-123-338-00	ELECT	2200MF	20%	25V
C602	1-123-493-00	ELECT	47MF	20%	25V
C603	1-123-484-00	ELECT	100MF	20%	16V
C604	1-123-484-00	ELECT	100MF	20%	16V
C605	1-123-493-00	ELECT	47MF	20%	25V
C606 ⚠	1-123-338-00	ELECT	2200MF	20%	25V
C607 ⚠	1-123-489-00	ELECT	2200MF	20%	16V
C608	1-161-329-00	CERAMIC	0.0068MF	30%	25V
C609	1-123-307-00	ELECT	100MF	20%	6.3V
C610	1-123-307-00	ELECT	100MF	20%	6.3V
C611	1-161-329-00	CERAMIC	0.0068MF	30%	25V
C612 ⚠	1-123-489-00	ELECT	2200MF	20%	16V
C613 ⚠	1-123-505-00	ELECT	220MF	20%	35V
C614 ⚠	1-123-513-00	ELECT	100MF	20%	50V
C615	1-123-493-00	ELECT	47MF	20%	25V
C616	1-123-380-00	ELECT	1MF	20%	50V
C617	1-123-356-00	ELECT	10MF	20%	50V
C618 ⚠	1-123-489-00	ELECT	2200MF	20%	16V

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C801 ⚠	1-130-456-00	(AEP)...FILM	0.022MF	20%	250V
C801 ⚠	1-161-744-00	(UK).....CERAMIC	10000PF		400V
C801 ⚠	1-161-749-00	(US,Canadian)...CERAMIC	10000PF		125V
C802	1-102-114-00	CERAMIC	470PF	10%	50V
C803	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C805 ⚠	1-161-744-00	(UK)...CERAMIC	10000PM		400V
C901	1-161-323-00	CERAMIC	0.001MF	10%	50V
C961	1-130-640-00	FILM	0.47MF	5%	50V
C962	1-101-005-00	CERAMIC	0.022MF		50V
C963	1-101-005-00	CERAMIC	0.022MF		50V
C971	1-101-003-00	CERAMIC	0.0047MF		50V
C972	1-101-003-00	CERAMIC	0.0047MF		50V
C973	1-101-003-00	CERAMIC	0.0047MF		50V
CNJ1 ♦	1-560-065-00	PIN, CONNECTOR 8P			
CNJ2 ♦	1-560-062-41	PIN, CONNECTOR 4P			
CNJ3 ♦	1-560-060-00	PIN, CONNECTOR 2P			
CNJ4 ♦	1-560-338-00	PIN, CONNECTOR 7P			
CNJ5 ♦	1-560-060-21	PIN, CONNECTOR 2P			
CNJ6 ♦	1-560-063-21	PIN, CONNECTOR 5P			
CNJ7 ♦	1-560-064-21	PIN, CONNECTOR 6P			
CNJ8 ♦	1-560-061-21	PIN, CONNECTOR 3P			
CNJ9 ♦	1-560-064-31	PIN, CONNECTOR 6P			
CNJ10 ♦	1-560-063-41	PIN, CONNECTOR 5P			
CNJ11 ♦	1-560-061-41	PIN, CONNECTOR 3P			
CNJ12 ♦	1-560-064-41	PIN, CONNECTOR 6P			
CNJ13 ♦	1-560-338-00	PIN, CONNECTOR 7P			
CNJ14 ♦	1-560-060-41	PIN, CONNECTOR 2P			
CNJ21 ♦	1-560-061-00	PIN, CONNECTOR 3P			
CNJ22 ♦	1-560-065-00	PIN, CONNECTOR 8P			
CNJ23 ♦	1-560-065-00	PIN, CONNECTOR 8P			
CNJ24 ♦	1-560-060-31	PIN, CONNECTOR 2P			
CNJ25 ♦	1-560-064-00	PIN, CONNECTOR 6P			
CNJ27 ♦	1-508-880-00	BASE POST, MCD CONNECTOR 6P			
CNJ28 ♦	1-560-061-31	PIN, CONNECTOR 3P			
CNJ31 ♦	1-560-062-31	PIN, CONNECTOR 4P			
CNJ32 ♦	1-560-339-00	PIN, CONNECTOR 9P			
CNJ33 ♦	1-560-063-31	PIN, CONNECTOR 5P			
CNJ34 ♦	1-560-073-00	PIN, CONNECTOR			
CNJ35 ♦	1-560-071-00	PIN, CONNECTOR			
CNJ41 ♦	1-560-063-00	PIN, CONNECTOR 5P			
D1	8-719-100-32	DIODE PH302B			
D101	8-719-815-55	DIODE 1S1555			
D102	8-719-815-55	DIODE 1S1555			
D103	8-719-815-55	DIODE 1S1555			
D104	8-719-815-55	DIODE 1S1555			
D105	8-719-922-28	DIODE PG2222SY-B1			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D202	8-719-815-55	DIODE 1S1555
D203	8-719-815-55	DIODE 1S1555
D204	8-719-815-55	DIODE 1S1555
D205	8-719-815-55	DIODE 1S1555
D206	8-719-127-07	DIODE RD2.7E
D207	8-719-127-07	DIODE RD2.7E
D301	8-719-127-07	DIODE RD2.7E
D302	8-719-127-07	DIODE RD2.7E
D303	8-719-815-55	DIODE 1S1555
D306	8-719-127-07	DIODE RD2.7E
D310	8-719-815-55	DIODE 1S1555
D311	8-719-815-55	DIODE 1S1555
D312	8-719-815-55	DIODE 1S1555
D313	8-719-815-55	DIODE 1S1555
D314	8-719-815-55	DIODE 1S1555
D401	8-719-815-55	DIODE 1S1555
D402	8-719-815-55	DIODE 1S1555
D403	8-719-815-55	DIODE 1S1555
D406	8-719-100-56	DIODE RD10E-B1
D407	8-719-815-55	DIODE 1S1555
D408	8-719-912-27	DIODE KV1226
D409	8-719-100-29	DIODE RD5.1E-B1
D410	8-719-815-55	DIODE 1S1555
D411	8-719-815-55	DIODE 1S1555
D413	8-719-815-55	DIODE 1S1555
D414	8-719-100-31	DIODE RD5.1E-B3
D415	8-719-815-55	DIODE 1S1555
D509	8-719-815-55	DIODE 1S1555
D510	8-719-815-55	DIODE 1S1555
D511	8-719-910-65	DIODE HZ6B2L
D512	8-719-910-65	DIODE HZ6B2L
D513	8-719-201-11	DIODE 10YG1.1
D514	8-719-201-11	DIODE 10YG1.1
D515	8-719-201-11	DIODE 10YG1.1
D516	8-719-201-11	DIODE 10YG1.1
D517	8-719-936-06	DIODE EQA01-06R
D518	8-719-936-06	DIODE EQA01-06R
D601 ⚠	8-719-230-01	DIODE 30DF-1
D602 ⚠	8-719-230-01	DIODE 30DF-1
D603	8-719-910-65	DIODE HZ6B2L
D604	8-719-910-65	DIODE HZ6B2L
D607 ⚠	8-719-230-01	DIODE 30DF-1
D608 ⚠	8-719-230-01	DIODE 30DF-1
D609 ⚠	8-719-210-12	DIODE 10DF2
D610 ⚠	8-719-210-12	DIODE 10DF2

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since thev are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D611⚠	8-719-210-12	DIODE 10DF2
D612⚠	8-719-210-12	DIODE 10DF2
D613⚠	8-719-200-02	DIODE 10E-2
D614⚠	8-719-200-02	DIODE 10E-2
D615	8-719-100-92	DIODE RD24E-B4
D616	8-719-100-29	DIODE RD5.1E-B1
D617	8-719-815-55	DIODE 1S1555
D618	8-719-815-55	DIODE 1S1555
D619	8-719-815-55	DIODE 1S1555
D950	8-719-922-28	DIODE PG2222SY-B1
D951	8-719-922-28	DIODE PG2222SY-B1
D952	8-719-922-28	DIODE PG2222SY-B1
D953	8-719-901-66	DIODE LT9200N
D954	8-719-907-80	DIODE AA5535S
D960	8-719-200-02	DIODE 10E-2
D961	8-719-812-31	DIODE TLR123
D962	8-719-812-31	DIODE TLR123
D963	8-719-110-21	DIODE PH102
D964	8-719-200-02	DIODE 10E-2
F501	1-235-174-00	FILTER, LOW PASS
F502	1-235-174-00	FILTER, LOW PASS
F601⚠	1-532-237-00	(AEP,UK)...FUSE, TIME-LAG, 3.15A 250V
F602⚠	1-532-237-00	(AEP,UK)...FUSE, TIME-LAG, 3.15A 250V
F603⚠	1-532-237-00	(AEP,UK)...FUSE, TIME-LAG, 3.15A 250V
F604⚠	1-532-237-00	(AEP,UK)...FUSE, TIME-LAG, 3.15A 250V
F801⚠	1-532-279-00	(AEP).....FUSE, TIME-LAG, 0.5A
F802⚠	1-532-555-00	(US,Canadian)...FUSE, GLASS TUBE 1.6A
IC1	8-759-113-73	IC UPC1373H
IC101	8-759-906-11	IC MB8841-1061K
IC102	8-759-906-10	IC MB8841-1060K
IC103	8-759-800-34	IC LM6416E-123
IC104	8-759-220-04	IC TC40H004P
IC105	8-759-240-69	IC TC4069UBP
IC106	8-759-240-11	IC TC4011BP
IC107	8-759-240-11	IC TC4011BP
IC108	8-759-240-30	IC TC4030BP
IC201	8-751-930-00	IC CX-193
IC202	8-759-745-60	IC NJM4560D
IC203	8-759-145-58	IC UPC4558C
IC204	8-749-969-22	IC STK6922
IC301	8-759-145-58	IC UPC4558C
IC302	8-759-745-60	IC NJM4560D
IC303	8-759-145-58	IC UPC4558C
IC304	8-749-969-22	IC STK6922
IC401	8-759-990-82	IC TL082CP

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC402	8-759-220-04	IC TC40H004P
IC403	8-759-903-55	IC LF357H
IC404	8-759-220-04	IC TC40H004P
IC405	8-759-220-04	IC TC40H004P
IC406	8-759-900-86	IC SN74LS86N
IC407	8-759-990-82	IC TL082CP
IC408	8-759-990-82	IC TL082CP
IC409	8-759-900-74	IC SN74LS74AN
IC410	8-759-900-76	IC SN74LS76AN
IC411	8-759-745-61	IC NJM4560D-D
IC412	8-759-993-53	IC LF353H
IC501	8-759-901-28	IC MSM5128-12RS
IC502	8-759-905-50	IC CX7933
IC503	8-759-905-52	IC CX7934
IC504	8-759-905-53	IC CX7935
IC507	8-752-001-70	IC CX20017
IC508	8-759-993-53	IC LF353H
IC509	8-759-993-53	IC LF353H
IC511	8-759-745-61	IC NJM4560D-D
IC512	8-759-340-53	IC HD14053BP
IC514	8-759-900-72	IC NE5532P
IC515	8-759-108-05	IC UPC78L05A
IC516	8-759-179-05	IC UPC7905H
IC601	8-759-745-61	IC NJM4560D-D
IC901	8-759-600-35	IC M54940P
J801	1-507-659-00	JACK
J802	1-507-688-21	(AEP:UP TO SERIAL No. 501000, UK:UP TO SERIAL No. 600300)...JACK (STEREO PLUG)
J803	1-507-731-21	JACK, PIN 2P
L1	1-404-310-00	COIL
L101	1-407-157-XX	MICRO INDUCTOR 10UH
L102	1-407-157-XX	MICRO INDUCTOR 10UH
L103	1-407-157-XX	MICRO INDUCTOR 10UH
L104	1-407-157-XX	MICRO INDUCTOR 10UH
L301	1-407-157-XX	MICRO INDUCTOR 10UH
L401	1-407-157-XX	MICRO INDUCTOR 10UH
M1	X-4884-526-1	MOTOR ASSY, LOADING
M2	X-4884-527-1	MOTOR ASSY, CHUCKING
M3	X-4884-527-1	MOTOR ASSY, SLED
Q101	8-729-334-58	(AEP:UP TO SERIAL No. 501000, UK:UP TO SERIAL No. 600300)...TRANSISTOR 2SC1345
Q102	8-729-334-58	(AEP:UP TO SERIAL No. 501000, UK:UP TO SERIAL No. 600300)...TRANSISTOR 2SC1345
Q103	8-729-334-58	TRANSISTOR 2SC1345
Q104	8-729-663-47	TRANSISTOR 2SC1364
Q106	8-729-663-47	TRANSISTOR 2SC1364

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q107	8-729-602-67	TRANSISTOR 2SA1026-7
Q108	8-729-334-58	TRANSISTOR 2SC1345
Q201	8-729-663-47	TRANSISTOR 2SC1364
Q202	8-729-663-47	TRANSISTOR 2SC1364
Q203	8-729-117-54	TRANSISTOR 2SA1175
Q204	8-729-117-54	TRANSISTOR 2SA1175
Q205	8-729-100-13	TRANSISTOR 2SC2001
Q206	8-729-100-13	TRANSISTOR 2SC2001
Q207	8-729-334-58	TRANSISTOR 2SC1345
Q301	8-729-100-13	TRANSISTOR 2SC2001
Q302	8-729-100-13	TRANSISTOR 2SC2001
Q303	8-729-334-58	TRANSISTOR 2SC1345
Q304	8-729-663-47	TRANSISTOR 2SC1364
Q306	8-729-334-58	TRANSISTOR 2SC1345
Q307	8-729-334-58	TRANSISTOR 2SC1345
Q308	8-729-663-47	TRANSISTOR 2SC1364
Q402	8-729-307-58	TRANSISTOR 2SC1775A
Q403	8-729-663-47	TRANSISTOR 2SC1364
Q404	8-729-663-47	TRANSISTOR 2SC1364
Q405	8-729-663-47	TRANSISTOR 2SC1364
Q501	8-729-201-52	TRANSISTOR 2SA1015
Q502	8-729-663-47	TRANSISTOR 2SC1364
Q504	8-765-423-00	TRANSISTOR 2SK152-3
Q505	8-765-423-00	TRANSISTOR 2SK152-3
Q506	8-729-663-47	TRANSISTOR 2SC1364
Q507	8-729-663-47	TRANSISTOR 2SC1364
Q510	8-729-107-53	TRANSISTOR 2SC2275A
Q511	8-729-167-62	TRANSISTOR 2SC2676
Q512	8-729-113-82	TRANSISTOR 2SA1138
Q513	8-729-167-62	TRANSISTOR 2SC2676
Q514	8-729-190-53	TRANSISTOR 2SA985A
Q515	8-729-113-82	TRANSISTOR 2SA1138
Q516	8-729-167-62	TRANSISTOR 2SC2676
Q517	8-729-113-82	TRANSISTOR 2SA1138
Q601	8-729-180-93	TRANSISTOR 2SD809
Q602	8-729-334-58	TRANSISTOR 2SC1345
Q603	8-729-334-58	TRANSISTOR 2SC1345
Q604	8-729-173-13	TRANSISTOR 2SB731
Q605	8-729-117-54	TRANSISTOR 2SA1175
Q606	8-729-117-54	TRANSISTOR 2SA1175
Q607	8-729-288-02	TRANSISTOR 2SD880
Q608	8-729-173-13	TRANSISTOR 2SB731
Q609	8-729-177-43	TRANSISTOR 2SD774
Q610	8-729-334-58	TRANSISTOR 2SC1345

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R101	1-247-863-00	CARBON 22K 5% 1/6W
R102	1-247-847-00	CARBON 4.7K 5% 1/6W
R103	1-247-863-00	CARBON 22K 5% 1/6W
R104	1-247-863-00	CARBON 22K 5% 1/6W
R105	1-247-855-00	CARBON 10K 5% 1/6W
R106	1-247-839-00	CARBON 2.2K 5% 1/6W
R107	1-247-863-00	CARBON 22K 5% 1/6W
R108	1-247-863-00	CARBON 22K 5% 1/6W
R109	1-247-847-00	CARBON 4.7K 5% 1/6W
R110	1-247-847-00	CARBON 4.7K 5% 1/6W
R111	1-247-847-00	CARBON 4.7K 5% 1/6W
R112	1-247-855-00	CARBON 10K 5% 1/6W
R113	1-247-863-00	CARBON 22K 5% 1/6W
R114	1-247-863-00	CARBON 22K 5% 1/6W
R115	1-247-863-00	(AEP:UP TO SERIAL No.501000, UK:UP TO SERIAL No.600300)..CARBON 22K 5% 1/6W
R116	1-247-863-00	(AEP:UP TO SERIAL No.501000, UK:UP TO SERIAL No.600300)..CARBON 22K 5% 1/6W
R117	1-247-863-00	CARBON 22K 5% 1/6W
R118	1-247-863-00	CARBON 22K 5% 1/6W
R119	1-247-863-00	CARBON 22K 5% 1/6W
R120	1-247-863-00	CARBON 22K 5% 1/6W
R121	1-247-863-00	CARBON 22K 5% 1/6W
R122	1-247-863-00	CARBON 22K 5% 1/6W
R123	1-247-863-00	CARBON 22K 5% 1/6W
R124	1-247-847-00	CARBON 4.7K 5% 1/6W
R125	1-247-847-00	CARBON 4.7K 5% 1/6W
R126	1-247-863-00	CARBON 22K 5% 1/6W
R127	1-247-863-00	CARBON 22K 5% 1/6W
R128	1-247-851-00	(AEP:UP TO SERIAL No.501000, UK:UP TO SERIAL No.600300)..CARBON 6.8K 5% 1/6W
R129	1-247-839-00	(AEP:UP TO SERIAL No.501000, UK:UP TO SERIAL No.600300)..CARBON 2.2K 5% 1/6W
R130	1-247-855-00	CARBON 10K 5% 1/6W
R132	1-247-807-00	CARBON 100 5% 1/6W
R133	1-247-903-00	CARBON 1M 5% 1/6W
R135	1-247-879-00	CARBON 100K 5% 1/6W
R136	1-247-863-00	CARBON 22K 5% 1/6W
R137	1-247-863-00	CARBON 22K 5% 1/6W
R138	1-247-863-00	CARBON 22K 5% 1/6W
R139	1-247-863-00	CARBON 22K 5% 1/6W
R140	1-247-863-00	CARBON 22K 5% 1/6W
R141	1-247-863-00	CARBON 22K 5% 1/6W
R142	1-247-863-00	CARBON 22K 5% 1/6W
R143	1-247-887-00	CARBON 220K 5% 1/6W

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since thev are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R144	1-247-863-00	CARBON	22K	5%	1/6W
R145	1-247-863-00	CARBON	22K	5%	1/6W
R146	1-247-863-00	CARBON	22K	5%	1/6W
R147	1-247-863-00	CARBON	22K	5%	1/6W
R148	1-247-863-00	CARBON	22K	5%	1/6W
R149	1-247-863-00	CARBON	22K	5%	1/6W
R150	1-247-863-00	CARBON	22K	5%	1/6W
R151	1-247-863-00	CARBON	22K	5%	1/6W
R152	1-247-863-00	CARBON	22K	5%	1/6W
R153	1-247-863-00	CARBON	22K	5%	1/6W
R154	1-247-863-00	CARBON	22K	5%	1/6W
R155	1-247-863-00	CARBON	22K	5%	1/6W
R156	1-247-819-00	CARBON	330	5%	1/6W
R157	1-247-819-00	CARBON	330	5%	1/6W
R158	1-247-811-00	CARBON	150	5%	1/6W
R159	1-247-811-00	CARBON	150	5%	1/6W
R160	1-247-811-00	CARBON	150	5%	1/6W
R161	1-247-847-00	CARBON	4.7K	5%	1/6W
R162	1-247-903-00	CARBON	1M	5%	1/6W
R163	1-247-863-00	CARBON	22K	5%	1/6W
R164	1-247-863-00	CARBON	22K	5%	1/6W
R165	1-247-863-00	CARBON	22K	5%	1/6W
R166	1-247-863-00	CARBON	22K	5%	1/6W
R167	1-247-863-00	CARBON	22K	5%	1/6W
R168	1-247-879-00	CARBON	100K	5%	1/6W
R169	1-247-903-00	CARBON	1M	5%	1/6W
R170	1-247-811-00	CARBON	150	5%	1/6W
R171	1-247-903-00	CARBON	1M	5%	1/6W
R172	1-247-855-00	CARBON	10K	5%	1/6W
R173	1-247-819-00	CARBON	330	5%	1/6W
R175	1-247-817-00	CARBON	270	5%	1/6W
R176	1-247-879-00	CARBON	100K	5%	1/6W
R177	1-247-855-00	CARBON	10K	5%	1/6W
R179	1-247-847-00	CARBON	4.7K	5%	1/6W
R201	1-247-863-00	CARBON	22K	5%	1/6W
R202	1-247-855-00	CARBON	10K	5%	1/6W
R203	1-214-779-00	METAL	120K	1%	1/4W
R204	1-247-877-00	CARBON	82K	5%	1/6W
R205	1-247-859-00	CARBON	15K	5%	1/6W
R206	1-247-871-00	CARBON	47K	5%	1/6W
R207	1-247-855-00	CARBON	10K	5%	1/6W
R208	1-247-859-00	CARBON	15K	5%	1/6W
R209	1-247-859-00	CARBON	15K	5%	1/6W
R210	1-247-855-00	CARBON	10K	5%	1/6W
R211	1-247-875-00	CARBON	68K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R212	1-247-855-00	CARBON	10K	5%	1/6W
R213	1-247-851-00	CARBON	6.8K	5%	1/6W
R214	1-247-869-00	CARBON	39K	5%	1/6W
R215	1-244-852-00	CARBON	130	5%	1/2W
R217	1-247-869-00	CARBON	39K	5%	1/6W
R218	1-247-879-00	CARBON	100K	5%	1/6W
R219	1-214-757-00	METAL	15K	1%	1/4W
R220	1-247-895-00	CARBON	470K	5%	1/6W
R221	1-214-737-00	METAL	2.2K	1%	1/4W
R222	1-247-835-00	CARBON	1.5K	5%	1/6W
R223	1-247-855-00	CARBON	10K	5%	1/6W
R225	1-247-839-00	CARBON	2.2K	5%	1/6W
R226	1-247-867-00	CARBON	33K	5%	1/6W
R227	1-247-855-00	CARBON	10K	5%	1/6W
R228	1-247-831-00	CARBON	1K	5%	1/6W
R229	1-247-831-00	CARBON	1K	5%	1/6W
R230	1-247-873-00	CARBON	56K	5%	1/6W
R231	1-247-863-00	CARBON	22K	5%	1/6W
R232	1-214-741-00	METAL	3.3K	1%	1/4W
R233	1-214-759-00	METAL	18K	1%	1/4W
R234	1-247-903-00	CARBON	1M	5%	1/6W
R235	1-247-859-00	CARBON	15K	5%	1/6W
R236	1-247-855-00	CARBON	10K	5%	1/6W
R240	1-247-855-00	CARBON	10K	5%	1/6W
R241	1-247-863-00	CARBON	22K	5%	1/6W
R242	1-247-855-00	CARBON	10K	5%	1/6W
R243	1-247-867-00	CARBON	33K	5%	1/6W
R244	1-247-882-00	CARBON	130K	5%	1/6W
R245	1-247-865-00	CARBON	27K	5%	1/6W
R246	1-247-855-00	CARBON	10K	5%	1/6W
R247	1-247-813-00	CARBON	180	5%	1/6W
R250	1-247-877-00	CARBON	82K	5%	1/6W
R251	1-247-855-00	CARBON	10K	5%	1/6W
R252	1-247-855-00	CARBON	10K	5%	1/6W
R255	1-247-855-00	CARBON	10K	5%	1/6W
R256	1-247-823-00	CARBON	470	5%	1/6W
R257	1-247-855-00	CARBON	10K	5%	1/6W
R258	1-247-883-00	CARBON	150K	5%	1/6W
R269	1-247-861-00	CARBON	18K	5%	1/6W
R303	1-247-847-00	CARBON	4.7K	5%	1/6W
R304	1-247-863-00	CARBON	22K	5%	1/6W
R305	1-247-879-00	CARBON	100K	5%	1/6W
R306	1-247-877-00	CARBON	82K	5%	1/6W
R307	1-247-855-00	CARBON	10K	5%	1/6W
R308	1-247-855-00	CARBON	10K	5%	1/6W

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R309	1-247-855-00	CARBON	10K	5%	1/6W
R310	1-247-855-00	CARBON	10K	5%	1/6W
R311	1-247-835-00	CARBON	1.5K	5%	1/6W
R312	1-247-863-00	CARBON	22K	5%	1/6W
R313	1-247-855-00	CARBON	10K	5%	1/6W
R314	1-247-841-00	CARBON	2.7K	5%	1/6W
R315	1-247-875-00	CARBON	68K	5%	1/6W
R316	1-247-863-00	CARBON	22K	5%	1/6W
R317	1-247-881-00	CARBON	120K	5%	1/6W
R318	1-247-871-00	CARBON	47K	5%	1/6W
R319	1-247-871-00	CARBON	47K	5%	1/6W
R320	1-247-867-00	CARBON	33K	5%	1/6W
R321	1-247-863-00	CARBON	22K	5%	1/6W
R322	1-247-863-00	CARBON	22K	5%	1/6W
R323	1-247-867-00	CARBON	33K	5%	1/6W
R324	1-247-843-00	CARBON	3.3K	5%	1/6W
R325	1-247-843-00	CARBON	3.3K	5%	1/6W
R326	1-247-903-00	CARBON	1M	5%	1/6W
R327	1-247-859-00	CARBON	15K	5%	1/6W
R328	1-247-855-00	CARBON	10K	5%	1/6W
R329	1-247-863-00	CARBON	22K	5%	1/6W
R330	1-247-875-00	CARBON	68K	5%	1/6W
R331	1-247-863-00	CARBON	22K	5%	1/6W
R332	1-247-875-00	CARBON	68K	5%	1/6W
R333	1-247-867-00	CARBON	33K	5%	1/6W
R334	1-247-877-00	CARBON	82K	5%	1/6W
R335	1-247-871-00	CARBON	47K	5%	1/6W
R336	1-247-855-00	CARBON	10K	5%	1/6W
R337	1-247-847-00	CARBON	4.7K	5%	1/6W
R338	1-247-839-00	CARBON	2.2K	5%	1/6W
R339	1-247-875-00	CARBON	68K	5%	1/6W
R340	1-247-885-00	CARBON	180K	5%	1/6W
R341	1-247-871-00	CARBON	47K	5%	1/6W
R342	1-247-885-00	CARBON	180K	5%	1/6W
R343	1-247-871-00	CARBON	47K	5%	1/6W
R344	1-247-881-00	CARBON	120K	5%	1/6W
R345	1-247-861-00	CARBON	18K	5%	1/6W
R346	1-247-881-00	CARBON	120K	5%	1/6W
R347	1-247-861-00	CARBON	18K	5%	1/6W
R348	1-247-827-00	CARBON	680	5%	1/6W
R349	1-247-839-00	CARBON	2.2K	5%	1/6W
R350	1-247-863-00	CARBON	22K	5%	1/6W
R351	1-247-887-00	CARBON	220K	5%	1/6W
R352	1-247-839-00	CARBON	2.2K	5%	1/6W
R353	1-247-887-00	CARBON	220K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R354	1-247-855-00	CARBON	10K	5%	1/6W
R390 ⚠	1-212-849-00	(AEP,UK)...FUSE	4.7	5%	1/4W
R391 ⚠	1-212-849-00	(AEP,UK)...FUSE	4.7	5%	1/4W
R401	1-247-888-00	CARBON	240K	5%	1/6W
R402	1-247-885-00	CARBON	180K	5%	1/6W
R403	1-247-855-00	CARBON	10K	5%	1/6W
R404	1-247-855-00	CARBON	10K	5%	1/6W
R405	1-247-855-00	CARBON	10K	5%	1/6W
R406	1-247-855-00	CARBON	10K	5%	1/6W
R407	1-247-855-00	CARBON	10K	5%	1/6W
R408	1-247-855-00	CARBON	10K	5%	1/6W
R409	1-247-847-00	CARBON	4.7K	5%	1/6W
R410	1-247-847-00	CARBON	4.7K	5%	1/6W
R411	1-247-888-00	CARBON	240K	5%	1/6W
R412	1-247-903-00	CARBON	1M	5%	1/6W
R413	1-247-903-00	CARBON	1M	5%	1/6W
R414	1-247-891-00	CARBON	330K	5%	1/6W
R415	1-247-855-00	CARBON	10K	5%	1/6W
R416	1-247-859-00	CARBON	15K	5%	1/6W
R417	1-247-848-00	CARBON	5.1K	5%	1/6W
R429	1-247-845-00	CARBON	3.9K	5%	1/6W
R430	1-247-858-00	CARBON	13K	5%	1/6W
R431	1-247-831-00	CARBON	1K	5%	1/6W
R432	1-247-843-00	CARBON	3.3K	5%	1/6W
R433	1-247-831-00	CARBON	1K	5%	1/6W
R434	1-247-843-00	CARBON	3.3K	5%	1/6W
R435	1-247-831-00	CARBON	1K	5%	1/6W
R436	1-247-843-00	CARBON	3.3K	5%	1/6W
R437	1-247-867-00	CARBON	33K	5%	1/6W
R438	1-247-867-00	CARBON	33K	5%	1/6W
R439	1-247-838-00	CARBON	2K	5%	1/6W
R440	1-247-838-00	CARBON	2K	5%	1/6W
R441	1-247-855-00	CARBON	10K	5%	1/6W
R442	1-247-831-00	CARBON	1K	5%	1/6W
R443	1-247-831-00	CARBON	1K	5%	1/6W
R444	1-247-903-00	CARBON	1M	5%	1/6W
R446	1-214-761-00	METAL	22K	1%	1/4W
R447	1-247-839-00	CARBON	2.2K	5%	1/6W
R448	1-247-831-00	CARBON	1K	5%	1/6W
R449	1-247-879-00	CARBON	100K	5%	1/6W
R450	1-247-843-00	CARBON	3.3K	5%	1/6W
R451	1-247-829-00	CARBON	820	5%	1/6W
R452	1-247-859-00	CARBON	15K	5%	1/6W
R453	1-247-825-00	CARBON	560	5%	1/6W
R454	1-247-825-00	CARBON	560	5%	1/6W

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R456	1-247-879-00	CARBON	100K	5%	1/6W
R460	1-247-879-00	CARBON	100K	5%	1/6W
R462	1-247-846-00	CARBON	4.3K	5%	1/6W
R463	1-247-831-00	CARBON	1K	5%	1/6W
R464	1-247-879-00	CARBON	100K	5%	1/6W
R465	1-247-855-00	CARBON	10K	5%	1/6W
R466	1-247-831-00	CARBON	1K	5%	1/6W
R468	1-247-855-00	CARBON	10K	5%	1/6W
R469	1-247-841-00	CARBON	2.7K	5%	1/6W
R470	1-247-855-00	CARBON	10K	5%	1/6W
R471	1-247-879-00	CARBON	100K	5%	1/6W
R472	1-247-879-00	CARBON	100K	5%	1/6W
R473	1-246-461-00	CARBON	330	5%	1/4W
R474	1-247-848-00	CARBON	5.1K	5%	1/6W
R475	1-247-847-00	CARBON	4.7K	5%	1/6W
R476	1-247-832-00	CARBON	1.1K	5%	1/6W
R477	1-247-838-00	CARBON	2K	5%	1/6W
R478	1-247-848-00	CARBON	5.1K	5%	1/6W
R479	1-247-859-00	CARBON	15K	5%	1/6W
R480	1-247-855-00	CARBON	10K	5%	1/6W
R481	1-247-859-00	CARBON	15K	5%	1/6W
R482	1-247-855-00	CARBON	10K	5%	1/6W
R483	1-247-853-00	CARBON	8.2K	5%	1/6W
R485	1-247-895-00	CARBON	470K	5%	1/6W
R486	1-247-895-00	CARBON	470K	5%	1/6W
R487	1-247-839-00	CARBON	2.2K	5%	1/6W
R488	1-214-154-00	METAL	8.2K	1%	1/4W
R489	1-214-738-00	METAL	2.4K	1%	1/4W
R490	1-247-831-00	CARBON	1K	5%	1/6W
R491	1-247-838-00	CARBON	2K	5%	1/6W
R492	1-247-901-00	CARBON	820K	5%	1/6W
R493	1-246-441-00	CARBON	47	5%	1/4W
R501	1-247-855-00	CARBON	10K	5%	1/6W
R502	1-247-863-00	CARBON	22K	5%	1/6W
R503	1-247-871-00	CARBON	47K	5%	1/6W
R504	1-247-879-00	CARBON	100K	5%	1/6W
R510	1-214-761-00	METAL	22K	1%	1/4W
R511	1-214-761-00	METAL	22K	1%	1/4W
R514	1-247-841-00	CARBON	2.7K	5%	1/6W
R515	1-247-875-00	CARBON	68K	5%	1/6W
R518	1-214-761-00	METAL	22K	1%	1/4W
R519	1-214-892-00	METAL	15K	1%	1/2W
R520	1-214-892-00	METAL	15K	1%	1/2W
R521	1-214-761-00	METAL	22K	1%	1/4W
R523	1-247-847-00	CARBON	4.7K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R529	1-247-847-00	CARBON	4.7K	5%	1/6W
R530	1-214-892-00	METAL	15K	1%	1/2W
R532	1-214-870-00	METAL	1.8K	1%	1/2W
R533	1-214-852-00	METAL	330	1%	1/2W
R534	1-214-781-00	METAL	150K	1%	1/4W
R535	1-214-880-00	METAL	4.7K	1%	1/2W
R536	1-214-777-00	METAL	100K	1%	1/4W
R537	1-214-745-00	METAL	4.7K	1%	1/4W
R538	1-214-745-00	METAL	4.7K	1%	1/4W
R539	1-214-765-00	METAL	33K	1%	1/4W
R540	1-214-713-00	METAL	220	1%	1/4W
R541	1-214-893-00	METAL	16K	1%	1/2W
R543	1-214-870-00	METAL	1.8K	1%	1/2W
R544	1-214-852-00	METAL	330	1%	1/2W
R545	1-214-781-00	METAL	150K	1%	1/4W
R546	1-214-777-00	METAL	100K	1%	1/4W
R547	1-214-880-00	METAL	4.7K	1%	1/2W
R548	1-214-745-00	METAL	4.7K	1%	1/4W
R549	1-214-765-00	METAL	33K	1%	1/4W
R550	1-214-713-00	METAL	220	1%	1/4W
R551	1-214-745-00	METAL	4.7K	1%	1/4W
R554	1-247-847-00	CARBON	4.7K	5%	1/6W
R555	1-247-847-00	CARBON	4.7K	5%	1/6W
R556	1-214-848-00	METAL	220	1%	1/2W
R557	1-214-848-00	METAL	220	1%	1/2W
R558	1-247-855-00	CARBON	10K	5%	1/6W
R559	1-214-848-00	METAL	220	1%	1/2W
R560	1-214-848-00	METAL	220	1%	1/2W
R571	1-214-729-00	METAL	1K	1%	1/4W
R572	1-214-729-00	METAL	1K	1%	1/4W
R573	1-214-771-00	METAL	56K	1%	1/4W
R574	1-214-771-00	METAL	56K	1%	1/4W
R575	1-214-723-00	METAL	560	1%	1/4W
R576	1-214-723-00	METAL	560	1%	1/4W
R577	1-214-741-00	METAL	3.3K	1%	1/4W
R578	1-214-741-00	METAL	3.3K	1%	1/4W
R579	1-214-863-00	METAL	910	1%	1/2W
R580	1-214-864-00	METAL	1K	1%	1/2W
R581	1-214-864-00	METAL	1K	1%	1/2W
R582	1-214-863-00	METAL	910	1%	1/2W
R583	1-214-681-00	(US,Canadian)...METAL	10	1%	1/4W
R583 ⚠	1-212-857-00	(AEP,UK)...FUSE	10	1%	1/4W
R584	1-214-833-00	METAL	51	1%	1/2W
R585	1-247-807-00	CARBON	100	5%	1/6W
R588 ⚠	1-212-849-00	(AEP,UK)...FUSE	4.7	5%	1/4W

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R589 ⚠	1-212-849-00	(AEP,UK)...FUSE	4.7	5%	1/4W
R601	1-247-847-00	CARBON	4.7K	5%	1/6W
R602	1-247-847-00	CARBON	4.7K	5%	1/6W
R603	1-247-837-00	CARBON	1.8K	5%	1/6W
R604	1-214-744-00	METAL	4.3K	1%	1/4W
R605	1-214-746-00	METAL	5.1K	1%	1/4W
R606	1-214-746-00	METAL	5.1K	1%	1/4W
R607	1-214-744-00	METAL	4.3K	1%	1/4W
R608	1-247-837-00	CARBON	1.8K	5%	1/6W
R609	1-247-847-00	CARBON	4.7K	5%	1/6W
R610	1-247-847-00	CARBON	4.7K	5%	1/6W
R611	1-214-154-00	METAL	8.2K	1%	1/4W
R612	1-214-770-00	METAL	51K	1%	1/4W
R613	1-247-815-00	CARBON	220	5%	1/6W
R614	1-247-815-00	CARBON	220	5%	1/6W
R615	1-214-770-00	METAL	51K	1%	1/4W
R616	1-214-154-00	METAL	8.2K	1%	1/4W
R617	1-247-839-00	CARBON	2.2K	5%	1/6W
R618	1-247-831-00	CARBON	1K	5%	1/6W
R619	1-247-846-00	CARBON	4.3K	5%	1/6W
R620	1-247-885-00	CARBON	180K	5%	1/6W
R621 ⚠	1-212-946-00	(AEP,UK)...FUSE	3.3	5%	1/2W
R622 ⚠	1-212-946-00	(AEP,UK)...FUSE	3.3	5%	1/2W
R623 ⚠	1-212-946-00	(AEP,UK)...FUSE	3.3	5%	1/2W
R624 ⚠	1-202-857-00	(AEP,UK)...SOLID	33		1/4W
R625	1-247-843-00	CARBON	3.3K	5%	1/6W
R626	1-247-855-00	CARBON	10K	5%	1/6W
R627	1-247-855-00	CARBON	10K	5%	1/6W
R628	1-247-807-00	CARBON	100	5%	1/6W
R801	1-246-466-00	CARBON	510	5%	1/4W
R802	1-246-466-00	CARBON	510	5%	1/4W
R961	1-247-807-00	CARBON	100	5%	1/6W
RV101	1-226-241-00	RES, ADJ, CARBON 500K			
RV201	1-224-255-XX	RES, ADJ, METAL GLAZE 100K			
RV202	1-224-252-XX	RES, ADJ, METAL GLAZE 10K			
RV205	1-226-236-00	RES, ADJ, CARBON 10K			
RV301	1-226-236-00	RES, ADJ, CARBON 10K			
RV401	1-224-255-XX	RES, ADJ, METAL GLAZE 100K			
RV402	1-224-253-XX	RES, ADJ, METAL GLAZE 22K			
RV405	1-224-252-XX	RES, ADJ, METAL GLAZE 10K			
RV406	1-224-252-XX	RES, ADJ, METAL GLAZE 10K			
RV407	1-224-253-XX	RES, ADJ, METAL GLAZE 22K			
RV501	1-224-253-31	RES, ADJ, METAL GLAZE 22K			
RV502	1-224-253-31	RES, ADJ, METAL GLAZE 22K			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RY101	1-529-021-00	BUZZER
RY501	1-515-323-00	RELAY
RY502	1-515-323-00	RELAY
S801 ⚠	1-553-318-00	(AEP).....SWITCH, PUSH (AC POWER)
S801 ⚠	1-553-447-00	(UK).....SWITCH, PUSH (AC POWER)
S801 ⚠	1-553-319-00	(US,Canadian)...SWITCH, PUSH (AC POWER)
S802	1-516-576-00	SLIDE SWITCH, AUTO PAUSE
S803	1-554-205-00	SWITCH, SLIDE, CHUCKING DET
S804	1-516-576-00	SLIDE SWITCH, ANTI SHOCK
S901	1-554-296-00	SWITCH, KEY BOARD
S902	1-552-808-00	SWITCH, SLIDE, TIMER PLAY
S903	1-553-856-00	SWITCH, KEY BOARD, OPEN/CLOSE
S904	1-554-205-00	SWITCH, SLIDE, CHUCKING MOTOR
S905	1-553-636-00	SWITCH, MICR, MOTOR SELECT
S906 ⚠	1-554-205-00	SWITCH, SLIDE, LASER ON
S907	1-554-205-00	SWITCH, SLIDE, DISK TABLE POSITION DET
S908	1-554-205-00	SWITCH, SLIDE, LIMIT
S909 ⚠	1-554-205-00	SWITCH, SLIDE, LASER ON
S910	1-516-777-XX	SLIDE SWITCH, BEEP
T401	1-407-569-00	COIL, VARIABLE 10UH
T501	1-426-090-00	TRANSFORMER, RF
T502	1-426-090-00	TRANSFORMER, RF
T901 ⚠	1-447-431-00	(AEP).....TRANSFORMER, POWER
T901 ⚠	1-447-564-00	(UK).....TRANSFORMER, POWER
T901 ⚠	1-447-429-00	(US,Canadian)...TRANSFORMER, POWER
VR801	1-226-980-00	RES, VAR, CARBON 20K/20K
X101	1-527-380-21	CRYSTAL, OSC
X102	1-527-895-00	OSCILLATOR, CERAMIC
X501	1-527-948-12	VIBRATOR, CRYSTAL
X502	1-527-999-00	OSCILLATOR, CRYSTAL

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

MEMO

MEMO

RM-101

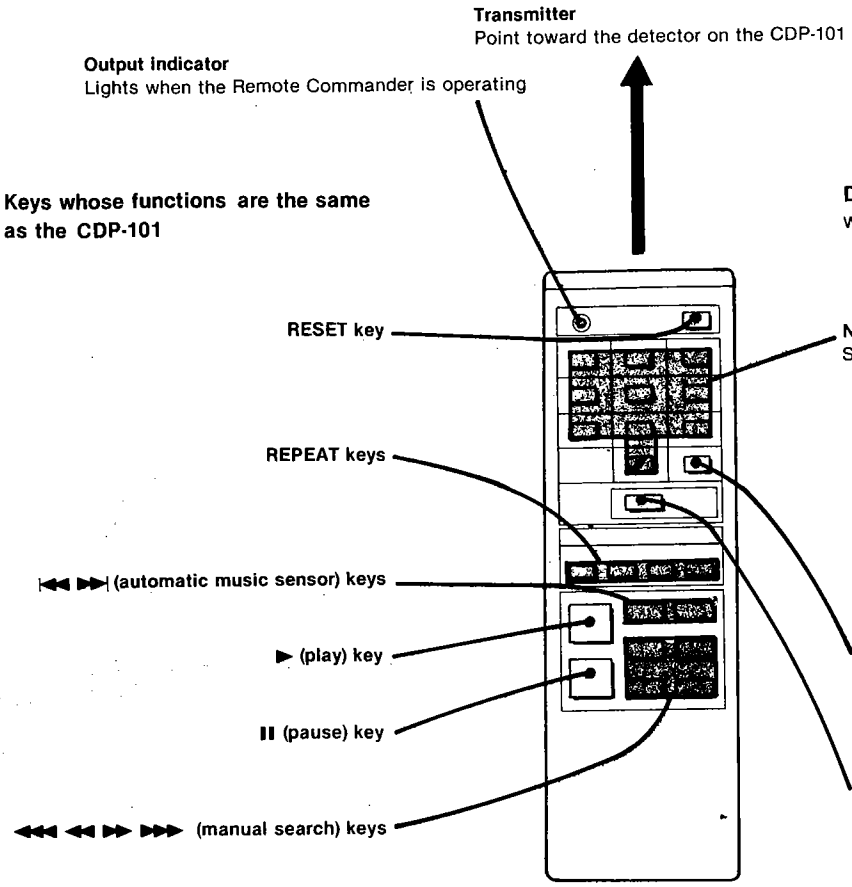
REMOTE COMMANDAR

SPECIFICATIONS

Remote control system	Infrared control
Power requirements	3 V dc with two batteries IEC designation R6 (size AA)
Dimensions	Approx. 55 × 175 × 26 mm (w/h/d) ($2^{1}/_{4}$ × 7 × $1^{1}/_{16}$ inches) incl. projecting parts and controls
Weight	Approx. 150 g (5.3 oz)

1. OPERATIONS

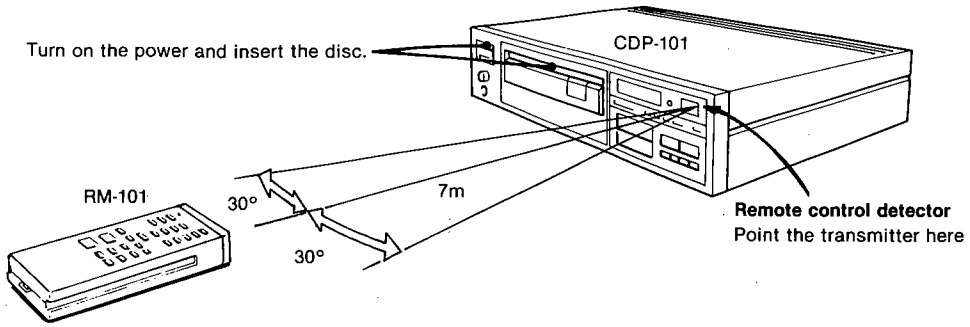
Function of keys on the Remote Commander


Transmitter
Point toward the detector on the CDP-101
Output indicator
Lights when the Remote Commander is operating
Keys whose functions are the same as the CDP-101
DIRECT MUSIC SELECT keys
which have no equivalent on the CDP-101
RESET key
Number keys
Select the desired track number by pressing these key(s).
Example 1 : 7 for the 7th selection
Example 2 : 1 and 4 for the 14th selection
REPEAT keys
⏮ ⏭ (automatic music sensor) keys
▶ (play) key
CLEAR key
If you press the wrong number key, press this key to clear the number.
II (pause) key
START key
Press to start playing the music selected by the number key(s).
◀◀◀ ◀◀ ▶▶ ▶▶▶ (manual search) keys

Notes on DIRECT MUSIC SELECT keys operation

- After you select the track number with the number keys, press the START key immediately.
  If you do not press the START key within a few seconds, or if you press any other key, the selected number is automatically cancelled.
- If you select a track number which is not available on the disc, the selected number is cancelled when the START keys is pressed.
- When the AUTO PAUSE switch is set to ON, the player will be in the pause mode after playing each selection. The auto pause mode is released when the START key on the Remote Commander is pressed.

Range of the remote control



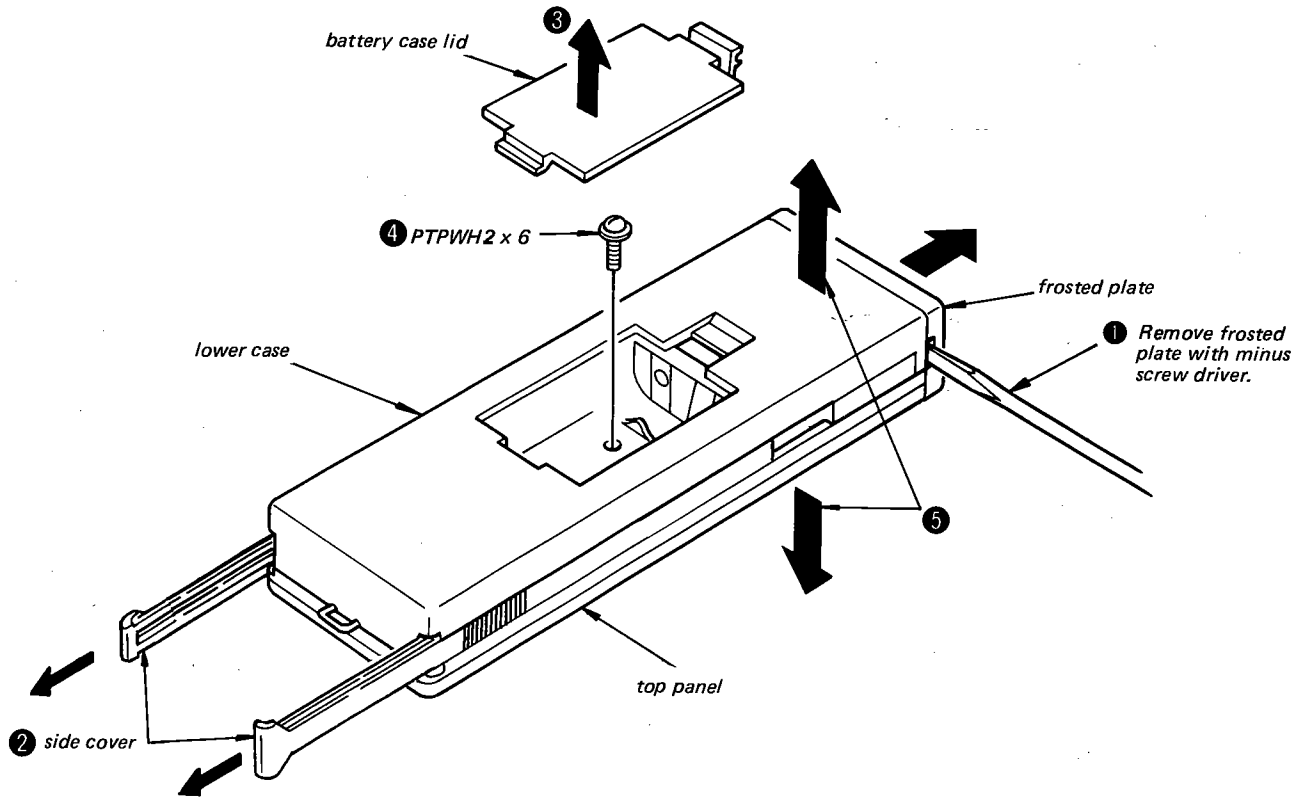
The shorter the distance between the Commander and the detector, the wider the angle within which the player can be controlled.

Notes on the Remote Commander

- In normal operation, battery life is up to half a year. When the battery is exhausted, the Remote Commander will not operate the unit. In this case, replace the batteries with new ones.
- When the Commander is not to be used for a long period of time, remove the batteries to avoid damage from possible battery leakage.
- Keep the Commander away from extremely hot or humid places.
- Avoid dropping any foreign objects into the Commander cabinet, particularly when replacing batteries.
- To avoid a malfunction, do not simultaneously depress two or more keys.
- If the output indicator does not light when any of the function keys are pressed, replace all the batteries.

2. DISASSEMBLY

- Follow the disassembly procedure in the numerical order given.



3. CIRCUIT DESCRIPTION

- **CX7947**

3-1. Summary

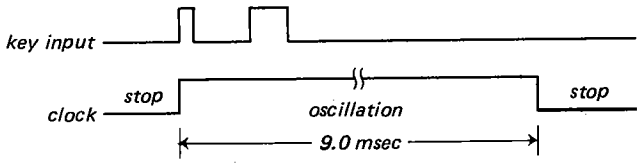
CX7947 is a power consumption reduction-type remote control LSI. When no key input exists, it can be initialized by stopping the clock.

On this model, if a function key is not pressed, it is in the initial state and the IC pins maintain the following states.

1) IC state for initial state
   - o clock stopped
   - o key output pins (KO1 – KO8) maintain level "1"
   - o remote control output (IR) pins maintain level "0"
   - o indication output (IND) pins maintain level "1"

2) Release of initial state
   The initial state is immediately released when there is input to the key input pins.

3) Clock on/off
   The clock oscillation is stopped for initial state only. When a switch is turned on from initial state, the clock begins oscillating within 10 msec.
   Once oscillation begins, even if key input stops right away, oscillation continues for 9.0 ms, then it returns to initial state and oscillation stops.
   Oscillation continues while key input continues or during remote control output.



4) Clock oscillation stopped state
   CL1 pin: maintained at VDD level inside IC
   CL2 pin: level "1" output

3-2. Pin Function Description

Pin No.	Pin Name	Function	Type
1	KI5	key input	IN
2	KI4	key input	IN
3	KI3	key input	IN
4	KI2	key input	IN
5	KI1	key input	IN
6	IND	indication output	OUT
7	CL1	oscillation input	IN
8	CL2	oscillation output	OUT
9	KO1	key output	OUT
10	KO2	key output	OUT
11	KO3	key output	OUT
12	KO4	key output	OUT
13	KO5	key output	OUT
14	VSS	GND	–
15	KO6	key output	OUT
16	KO7	key output	OUT
17	KO8	key output	OUT
18	IR	remote control output	OUT
19	MD5	mode switching	IN
20	MD4	mode switching	IN
21	MD3	mode switching	IN
22	MD2	mode switching	IN
23	MD1	mode switching	IN
24	MD0	mode switching	IN
25	KI8	key input	IN
26	KI7	key input	IN
27	KI6	key input	IN
28	VDD	power supply	–

3-3. Data Code

o Each switch is connected to one pin of the key matrix output pins (KO1 – KO8) and one pin of the key matrix input pins (KI1 – KI8). The data codes for each switch have the following relationships depending on to which pin each switch is connected.

Key output	Data code 2^5	2^4	2^3
KO1	0	0	0
KO2	0	0	1
KO3	0	1	0
KO4	0	1	1
KO5	1	0	0
KO6	1	0	1
KO7	1	1	0
KO8	1	1	1

Key input	Data code 2^2	2^1	2^0
KI1	0	0	0
KI2	0	0	1
KI3	0	1	0
KI4	0	1	1
KI5	1	0	0
KI6	1	0	1
KI7	1	1	0
KI8	1	1	1

o Data code 2^6 and the switches have the following relationships. On this model, pin MD0 is used open, so the data code is "0".

Switch	Data Code 2^6
2 switches used, MD0 is used open	0
3 switches used, MD0 sends level "1"	1

Level "1" or level "0" can be impressed continuously to MD0 DC-wise or during key read-in only. In this case, if level "1" is impressed during key read-in, remote control output data code 2^6 will have "1" output. However, if level "1" is impressed DC-wise, power consumption is performed by the Pull Down register.

3-4. Mode Switching Pins and Word Code

Mode Switching Pin Name	MD1	MD2	MD3	MD4	MD5
Word Code	2^7	2^8	2^9	2^{10}	2^{11}

When MDn is at level "1", data code 2^{n+6} becomes data "1".

This model's word code is 10001.

3-5. Transmission Codes

$(2^7 - 2^{11})$

- Word Code: 10001
- Data code

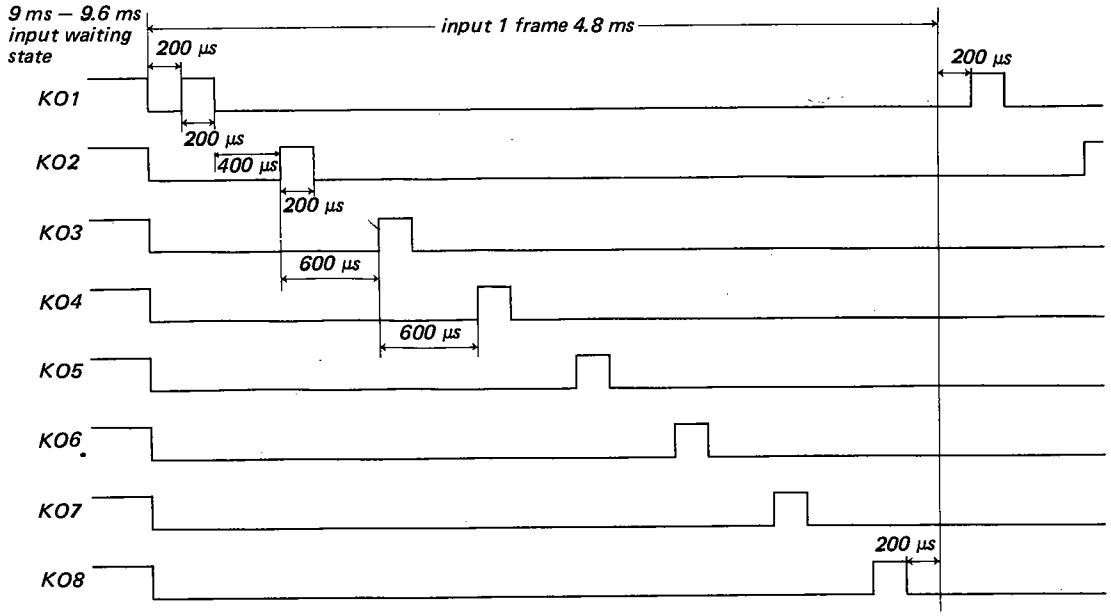
(LSB – MSB) 2^0 – 2^6	Command
0 0 0 0 0 0 0	1
1 0 0 0 0 0 0	2
0 1 0 0 0 0 0	3
1 1 0 0 0 0 0	4
0 0 1 0 0 0 0	5
1 0 1 0 0 0 0	6
0 1 1 0 0 0 0	7
1 1 1 0 0 0 0	8
0 0 0 1 0 0 0	9
1 0 0 1 0 0 0	0
1 1 0 1 1 0 0	CLEAR
0 0 1 1 1 0 0	START
0 0 0 1 0 1 0	▶▶
1 0 0 1 0 1 0	◀◀
1 1 0 1 0 1 0	REPEAT CLEAR
0 0 1 1 0 1 0	REPEAT ALL
1 0 1 1 0 1 0	REPEAT 1
0 0 0 0 1 1 0	⏮
1 0 0 0 1 1 0	⏭
0 1 0 0 1 1 0	▶
1 1 0 0 1 1 0	◀◀◀
0 0 1 0 1 1 0	▶▶▶
0 0 0 1 1 1 0	RESET
1 0 0 1 1 1 0	II

3-6. Key Matrix Output Pins Output Waveforms

1) Initial State and Input Waiting State
"1" is output constantly. In other words, no matter which switch is turned on, the information is transmitted directly to the key input pin.

2) Key Read-in State
From the end of input waiting state, 200 μsec wide pulses are output with 600 μsec time difference to KO1 – KO8, in that order.
The input frame is 4.8 msec (0.6 sec x 8 Pins) and with 1 frame as the unit, is output continuously until an abnormality is detected in key read-in.

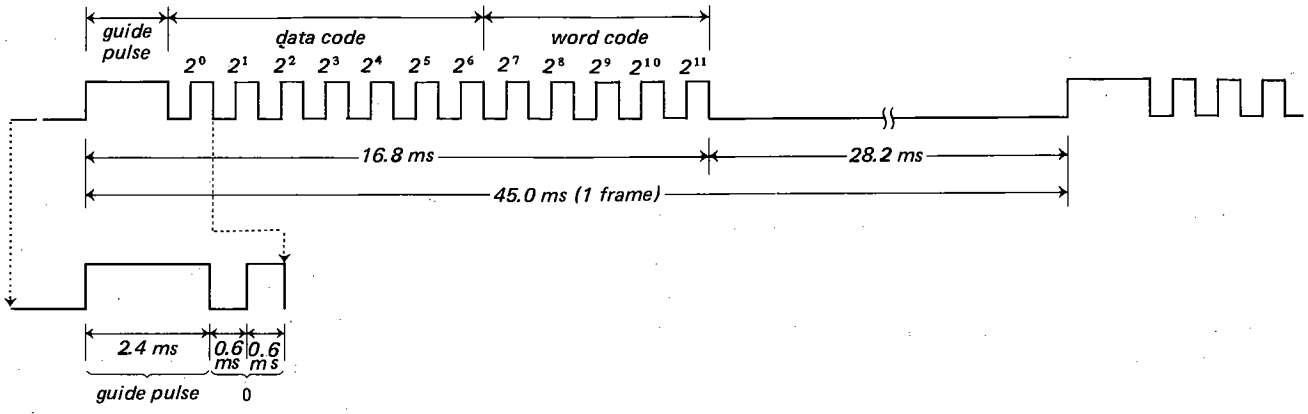
K01 – K08 output waveforms



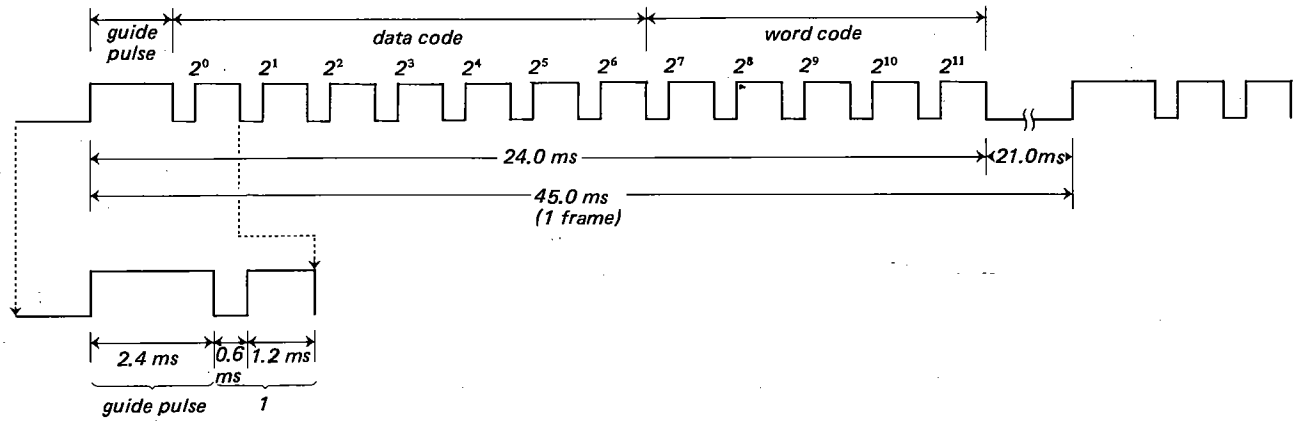
3-7. Output Waveforms

- The order for sending out of each data is:
  1) guide pulse
  2) data code (from 2^0 to 2^6)
  3) word code (from 2^7 to 2^{11})
- Even if the content of each data bit changes, the output frame interval (tf) remains 45 ms.

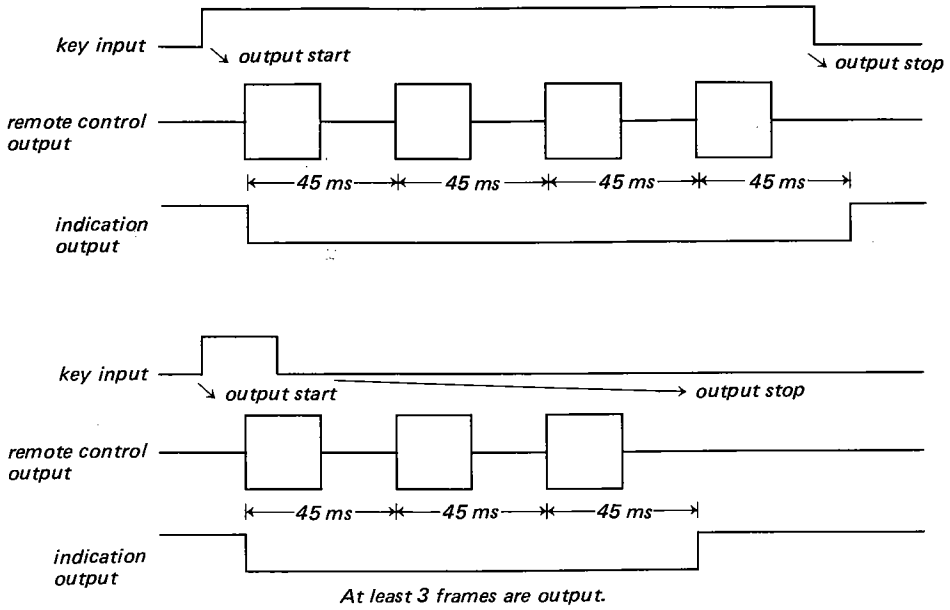
a) Time when data are all '0".



b) Time when data are all "1".

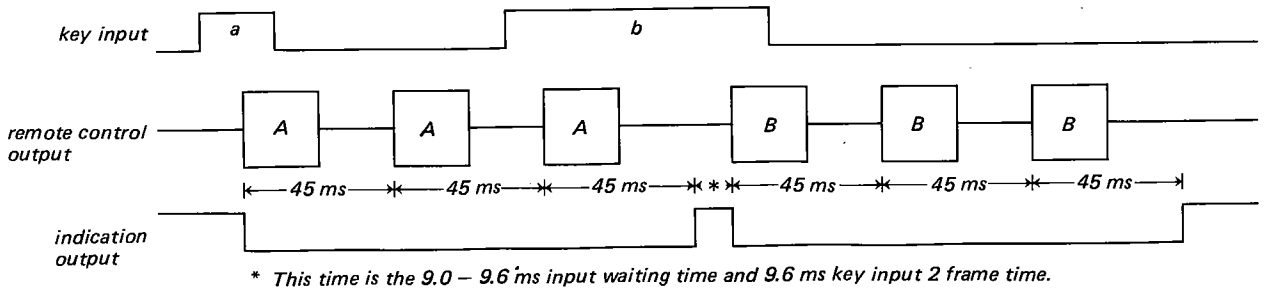


- The output waveform continues to be output while the key input data are continuously input normally. When it is detected that key input data are no longer input (switch off), output stops at the end of the output frame being output at that time.
  However, when there are less than 3 output frames at that point, output stops after 3 frames are continuously output.



At least 3 frames are output.

- During remote control output, for the following key input:
  If the next switch (b) is pressed before output of data (A) by the first switch (a) on ends, b switch key input is not accepted until A data output ends. After A data ends, there is a 9.0 –9.6 ms input waiting state (to remove chattering), and B data output begins from the point where the equality of the first two key input frames is confirmed.



** This time is the 9.0 – 9.6 ms input waiting time and 9.6 ms key input 2 frame time.*

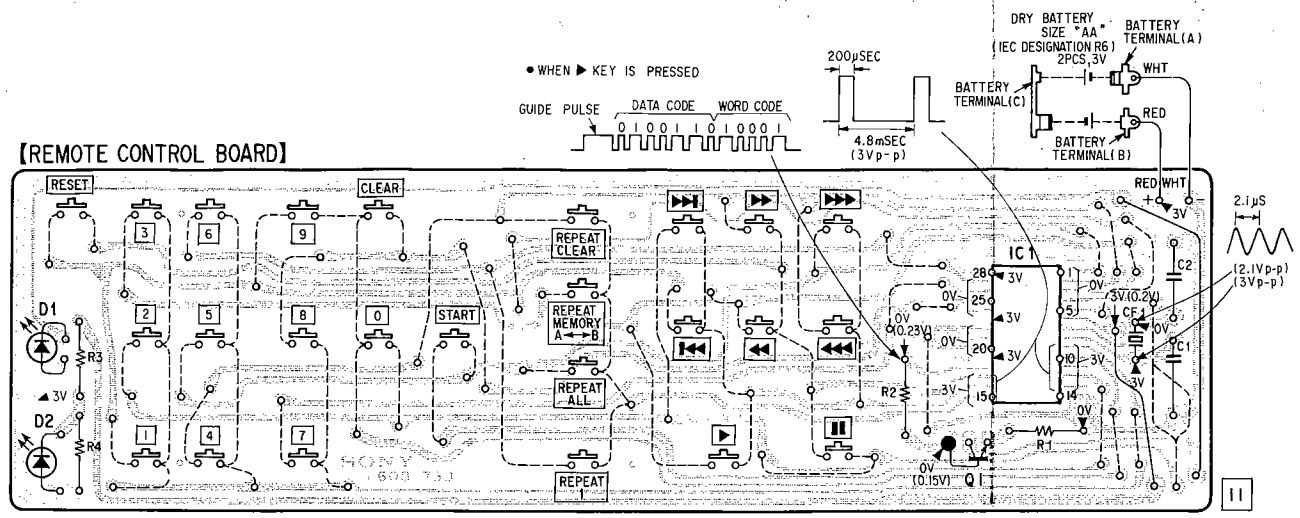
3-8. Indication Output

"0" Level is output during the remote control output signal, and level "1" is output when remote control output is stopped. Remote control output signal output indicates the output frame (45 msec) time of the remote control output.

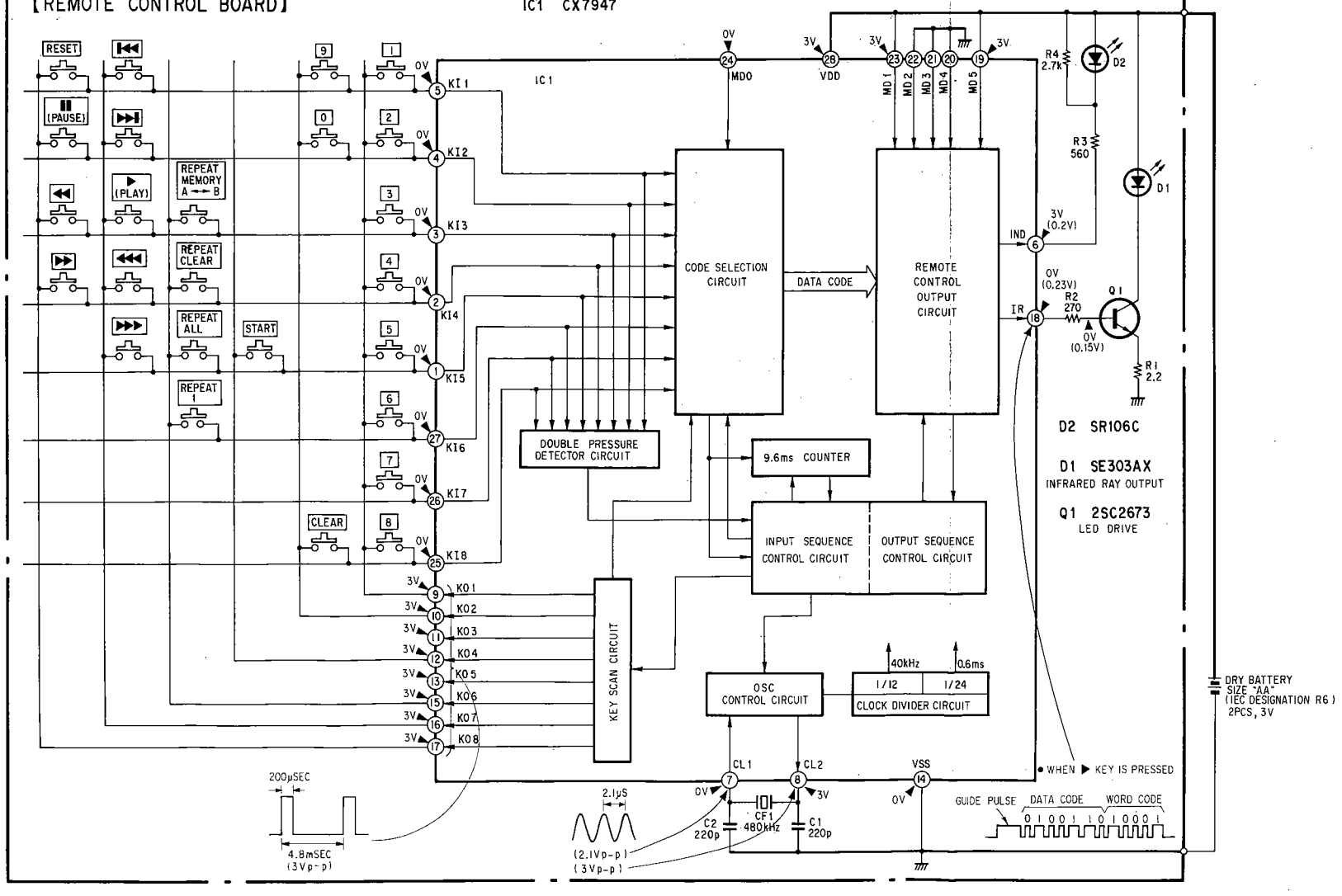
The output timing of the remote control output signal and indication output signal has a time difference of within 1 msec.

4. MOUNTING DIAGRAM

A | B | C | D | E | F | G

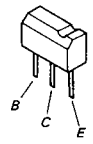


5. SCHEMATIC DIAGRAM

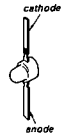


• Semiconductors Lead Layouts

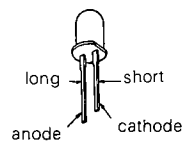
2SC2673



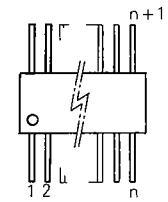
SR106C



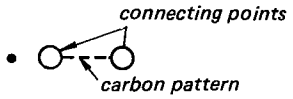
SE303AX



CX7947



Note:



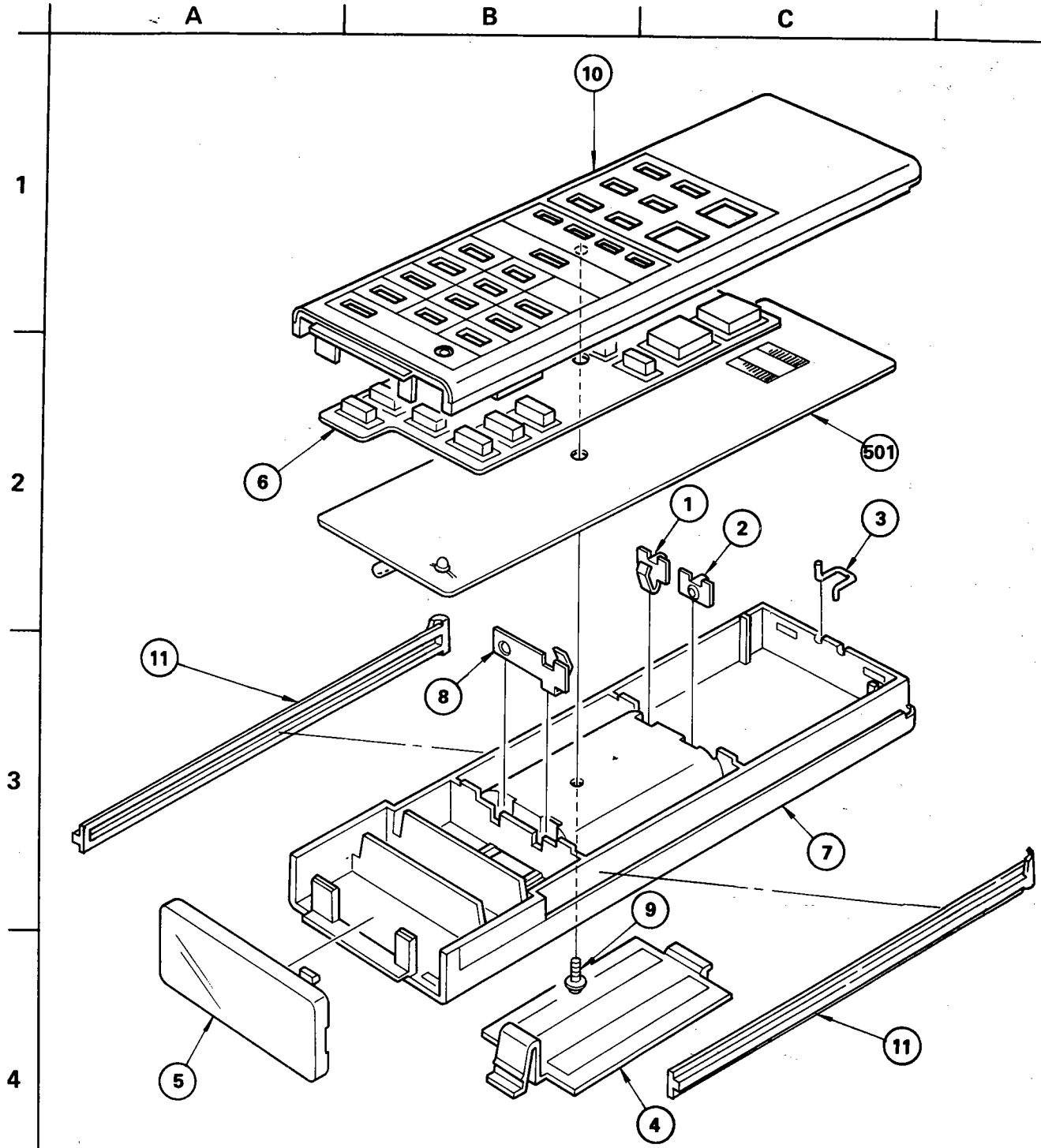
• ▒▒ : B + pattern

Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ——: B+ bus.
- Voltage waveforms are measured when function buttons are pressed. (Refer to CIRCUIT DESCRIPTION on page 94).
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a VOM (50 kΩ/V) under the following conditions.
  no mark: Function buttons are not pressed.
  ( ) : Function buttons are pressed.
- Voltage variations may be noted due to normal production tolerances.

Note: Voltages are measured with a VOM (50kΩ/V).

6. EXPLODED VIEW AND PARTS LIST



GENERAL SECTION

No.	Part No.	Description
1	2-290-601-00	TERMINAL (A), BATTERY
2	2-290-602-00	TERMINAL (B), BATTERY
3 ♦	2-375-001-00	HOOK
4	2-375-003-00	LID, BATTERY CASE
5	2-375-004-00	PLATE, FROSTED
6	2-375-006-00	RUBBER (D), CONTACT
7	2-375-008-00	CASE, LOWER
8	4-350-925-00	TERMINAL (C), BATTERY
9	7-687-204-11	TOTSU PTPWH 2X6 NON-SLIT,TYPE2
10	A-4636-096-A	PANEL ASSY, TOP
11 ♦	2-375-013-00	COVER, SIDE

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	★;1-608-733-00	PC BOARD, REMOTE CONTROL			
C1	1-161-315-00	CERAMIC	220PF	10%	50V
C2	1-161-315-00	CERAMIC	220PM	10%	50V
CF1	1-527-476-41	OSCILLATOR, CERAMIC			
D1	8-719-193-03	DIODE SE303AX			
D2	8-719-100-06	DIODE SR106C			
IC1	8-759-902-22	IC CX-7947			
Q1	8-729-967-32	TRANSISTOR 2SC2673-Q			
R1	1-246-409-00	CARBON	2.2	5%	1/4W
R2	1-246-459-00	CARBON	270	5%	1/4W
R3	1-246-467-00	CARBON	560	5%	1/4W
R4	1-246-483-00	CARBON	2.7K	5%	1/4W

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

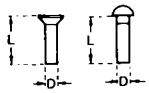
RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

HARDWARE NOMENCLATURE

Screw:

P 3 x 10
- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only. Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring:

N 3
- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

9-951-028-11

Sony Corporation
Consumer Products Group
Technical Support Dept.

English
82L05147-1
Printed in Japan
© 1982